Meta-Grammar Codex 021825

John Clark

What and Why we Are

Every product of a biological organism can claim to be a biological derivative.

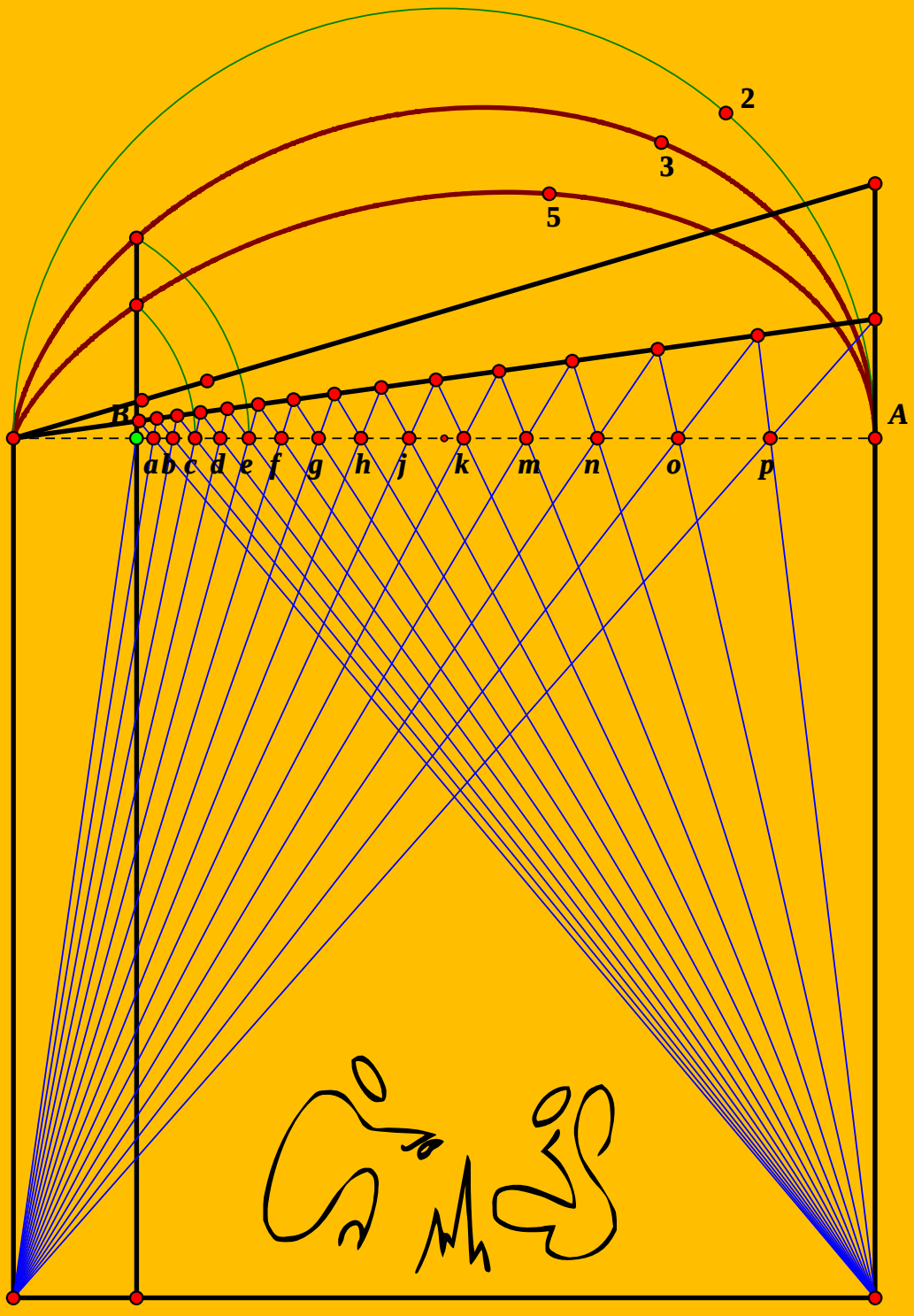
We are a product of a living organism, called mind, or soul, etc. We are in fact, potentially the most powerful life support system possible.

Our power comes from the ability to predict behavior and to use those predictions to regulate the behavior of our body.

This ability comes from the definition of a thing as some relative difference, i.e., verb, or material, within limits, or again, container, or again limit, or again, noun.

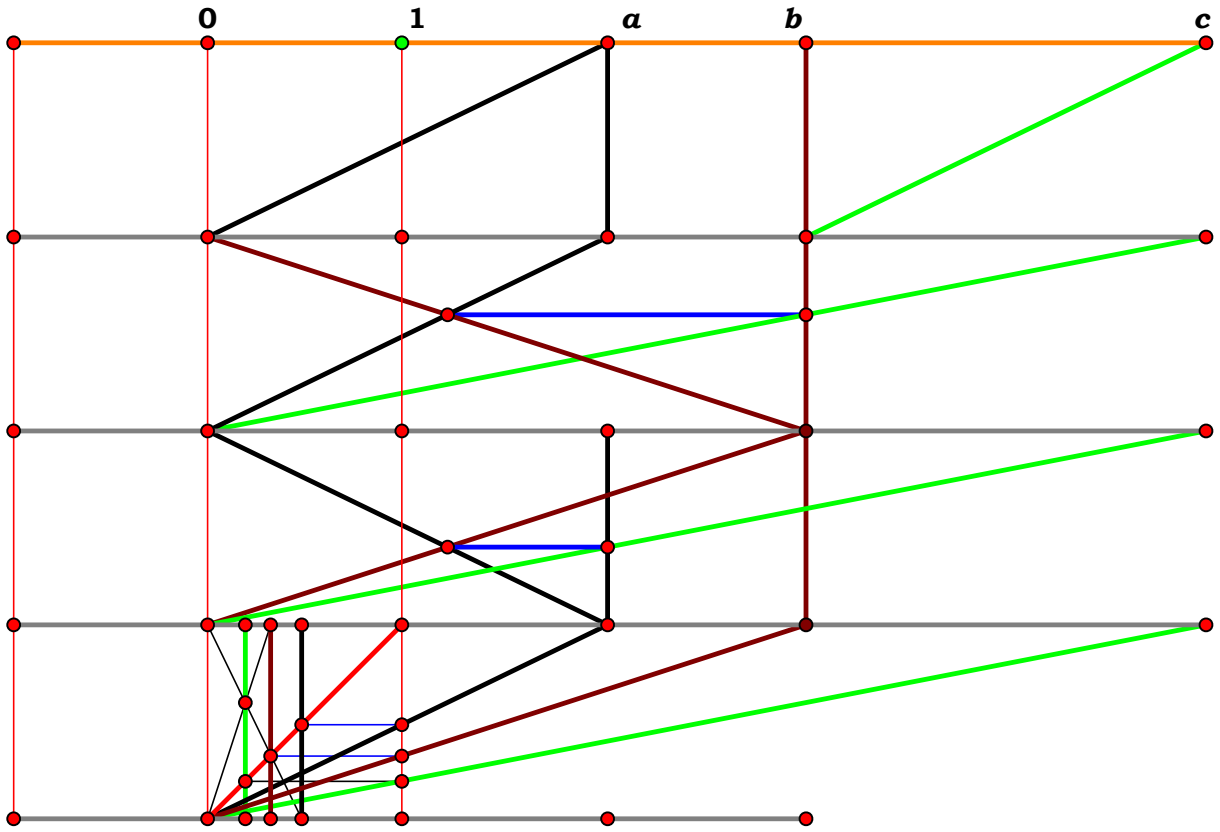
Literacy is then a biological imperative and this codex is a record of its primitive binaries.

Book of Moves



John Clark

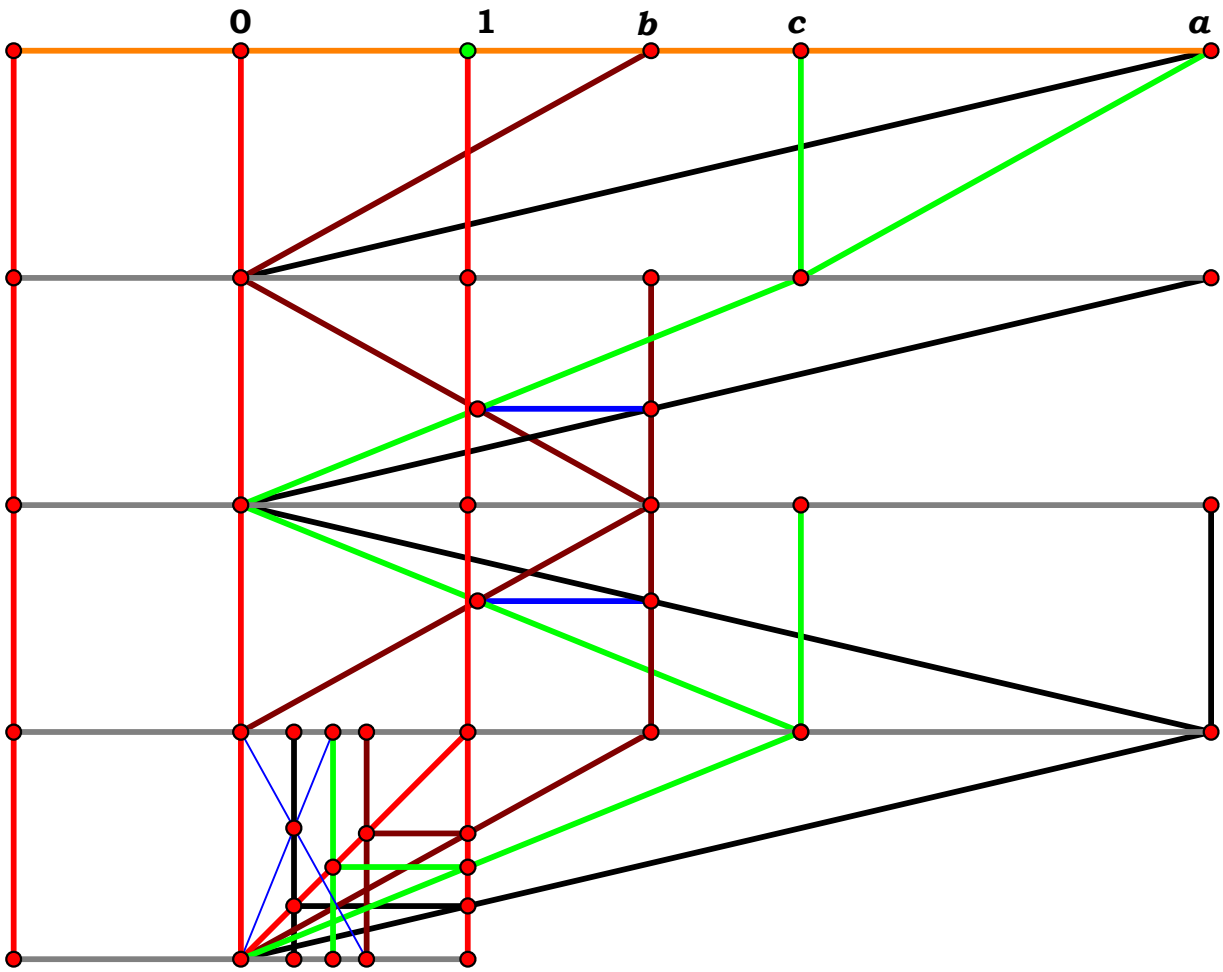
Addition



Unit = 1.00000
0 = 0.00000
1 = 1.00000

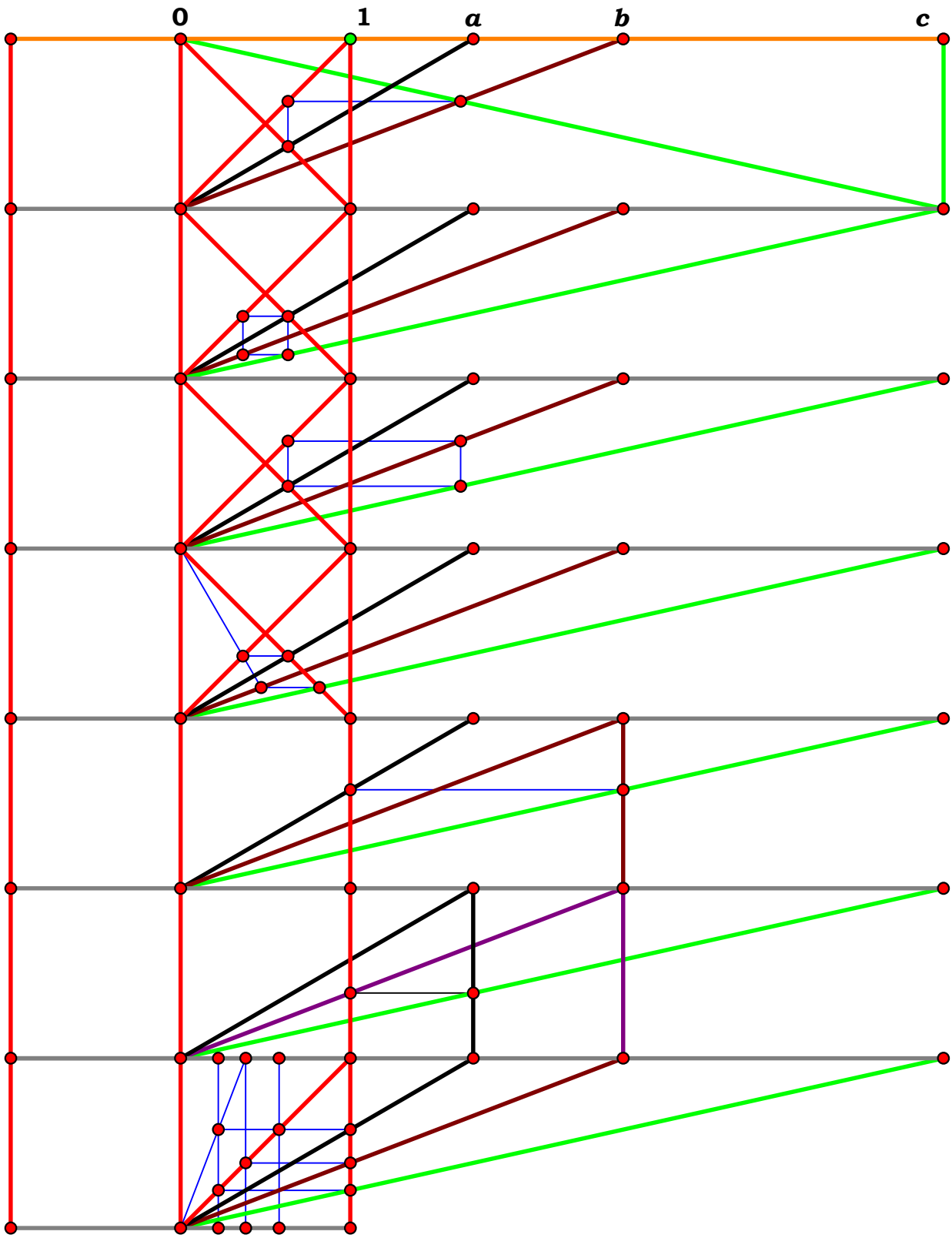
a = 2.06196
b = 3.08469
c = 5.14664
a + *b* − *c* = 0.00000

Subtraction



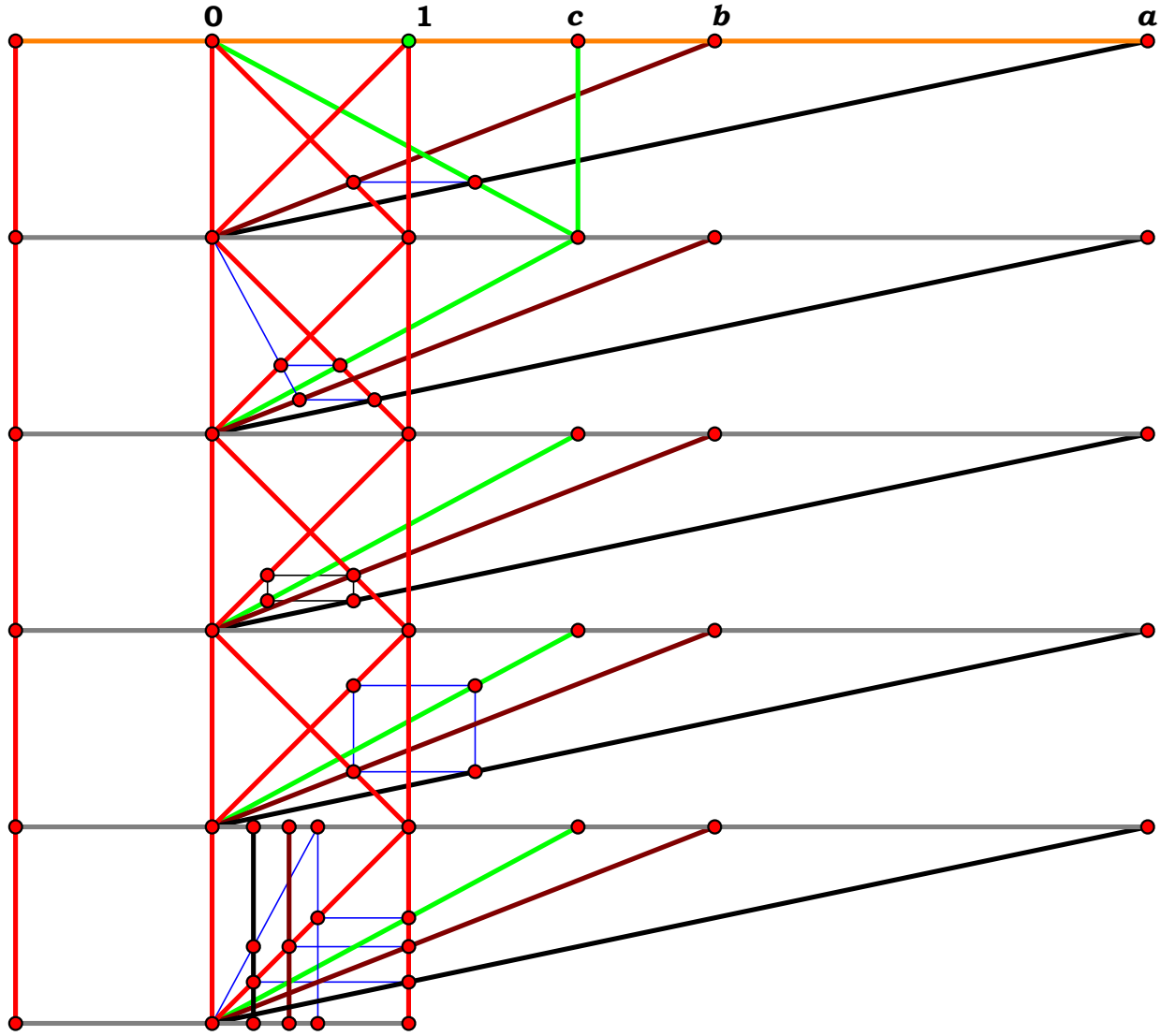
Unit = 1.00000
0 = 0.00000
1 = 1.00000
a = 4.27237
b = 1.80627
c = 2.46610

Multiplication



Unit = 1.00000
0 = 0.00000
1 = 1.00000
a = 1.72380
b = 2.60631
c = 4.49275
a·*b* − *c* = 0.00000

Division



$Unit = 1.00000$

$0 = 0.00000$

$1 = 1.00000$

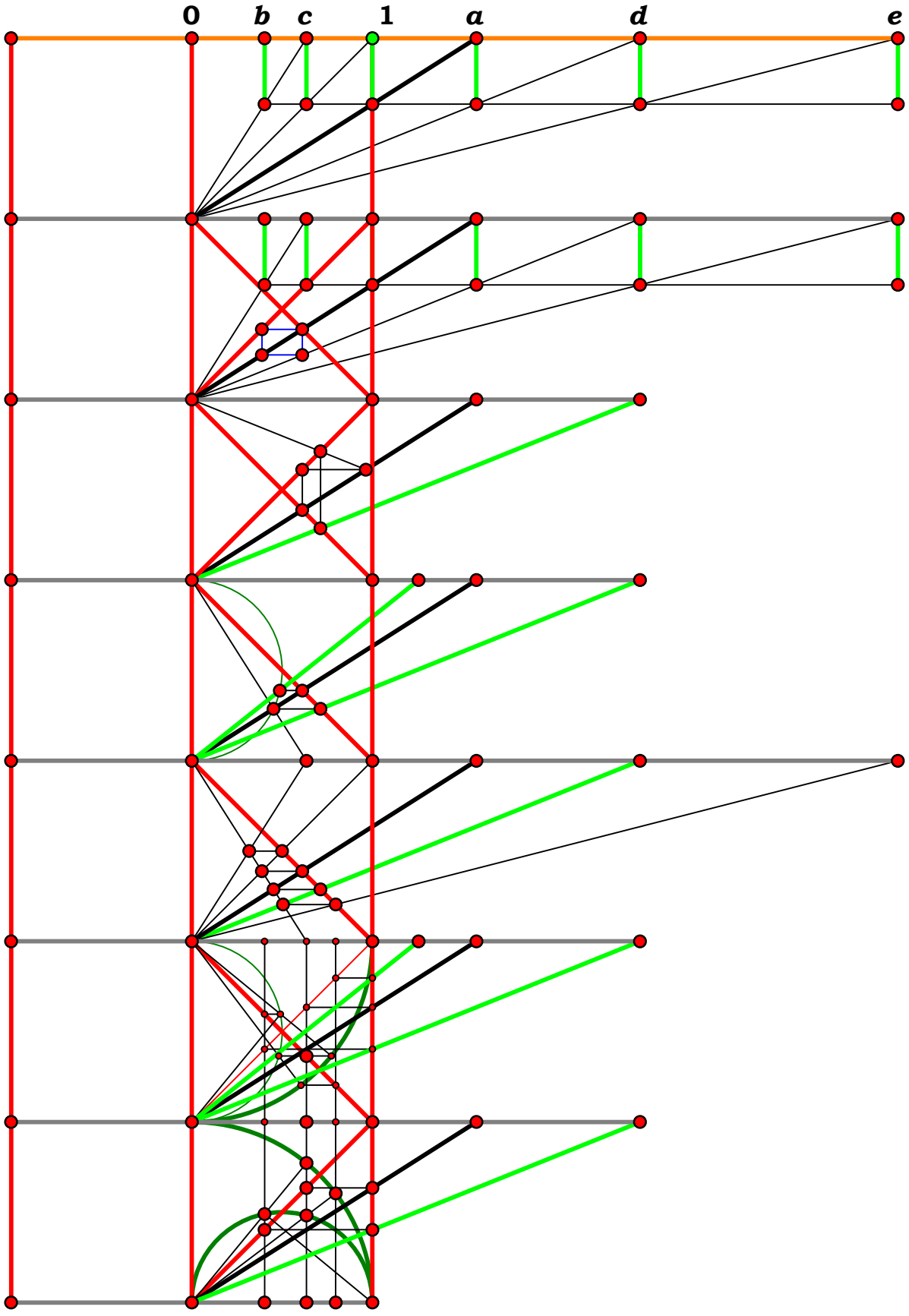
$a = 4.75899$

$b = 2.55683$

$c = 1.86129$

$\frac{a}{b} - c = 0.00000$

Exponents



$Unit = 1.00000$

$0 = 0.00000$

$1 = 1.00000$

$a = 1.57533$

$b = 0.40295$

$c = 0.63479$

$d = 2.48168$

$e = 3.90947$

$a^2 = 2.48168$

$a^3 = 3.90947$

$\frac{1}{a^2} = 0.40295$

$\frac{1}{a} = 0.63479$

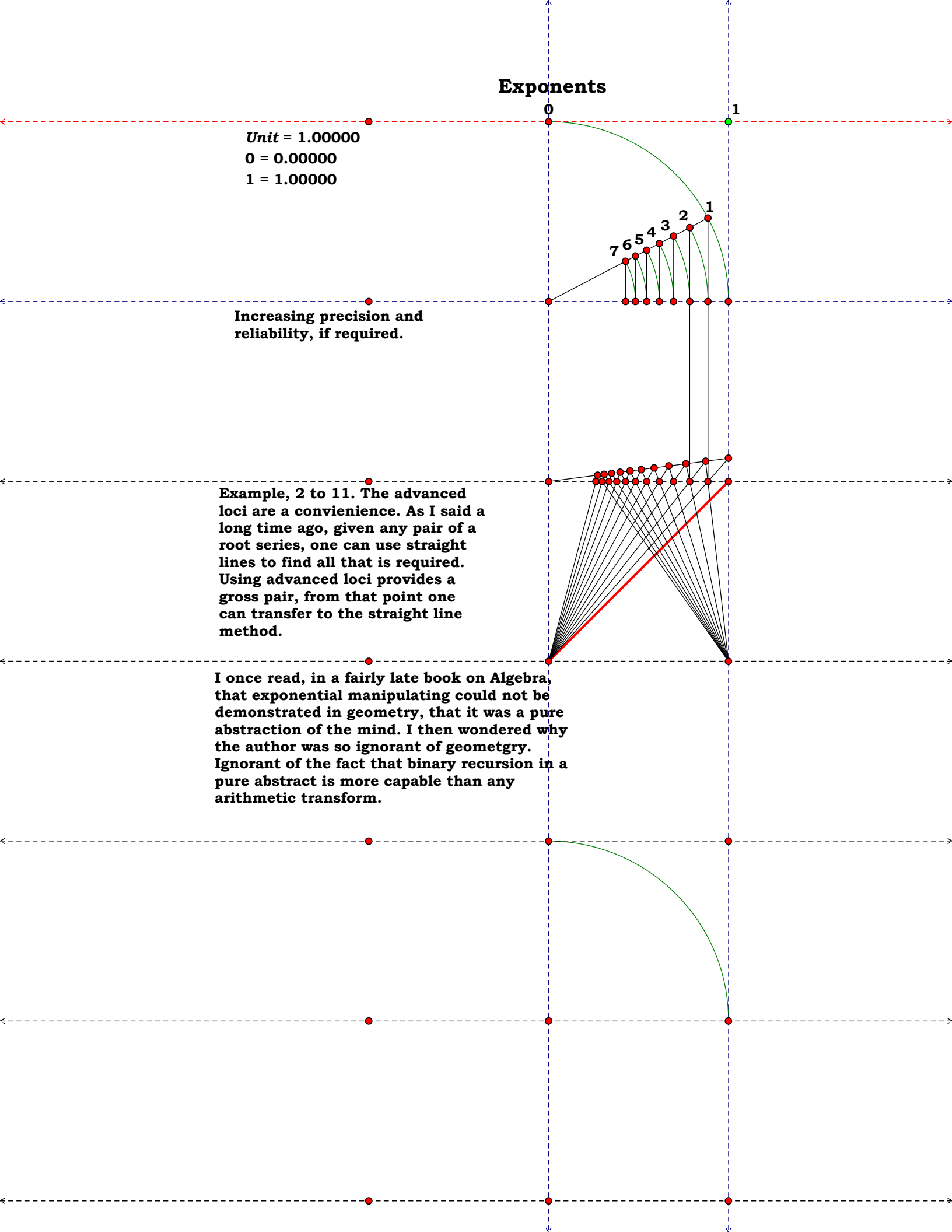
$a^2 - d = 0.00000$

$a^3 - e = 0.00000$

$\frac{1}{a^2} - b = 0.00000$

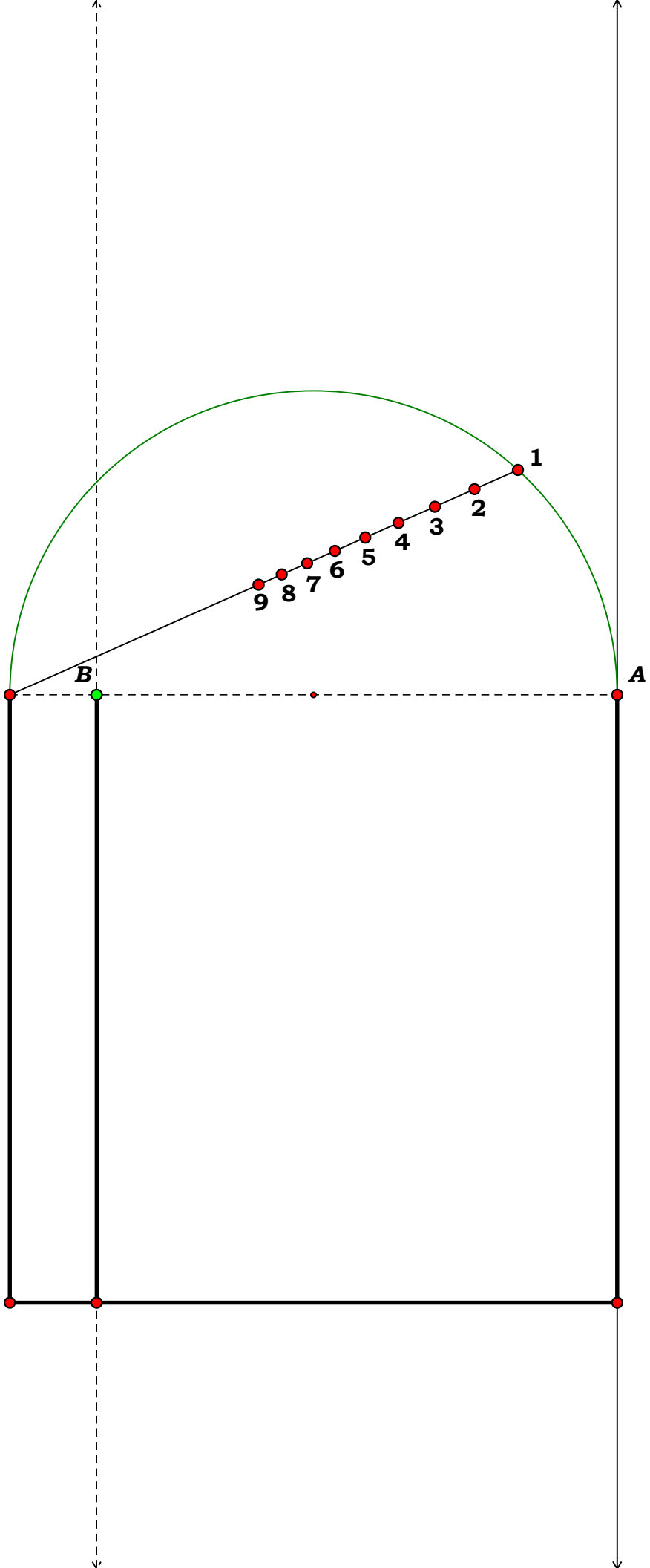
Reciprocal

$\frac{1}{a} - c = 0.00000$


Exponents
0
1
Unit = 1.00000
0 = 0.00000
1 = 1.00000
1
2
3
4
5
6
7
Increasing precision and reliability, if required.
Example, 2 to 11. The advanced loci are a convienience. As I said a long time ago, given any pair of a root series, one can use straight lines to find all that is required. Using advanced loci provides a gross pair, from that point one can transfer to the straight line method.
I once read, in a fairly late book on Algebra, that exponential manipulating could not be demonstrated in geometry, that it was a pure abstraction of the mind. I then wondered why the author was so ignorant of geometgry. Ignorant of the fact that binary recursion in a pure abstract is more capable than any arithmetic transform.

Unit = 1.00000
B = 1.00000
A = 7.00000

One way to divide any line by a root series. Using 7 as an example



Unit = 1.00000

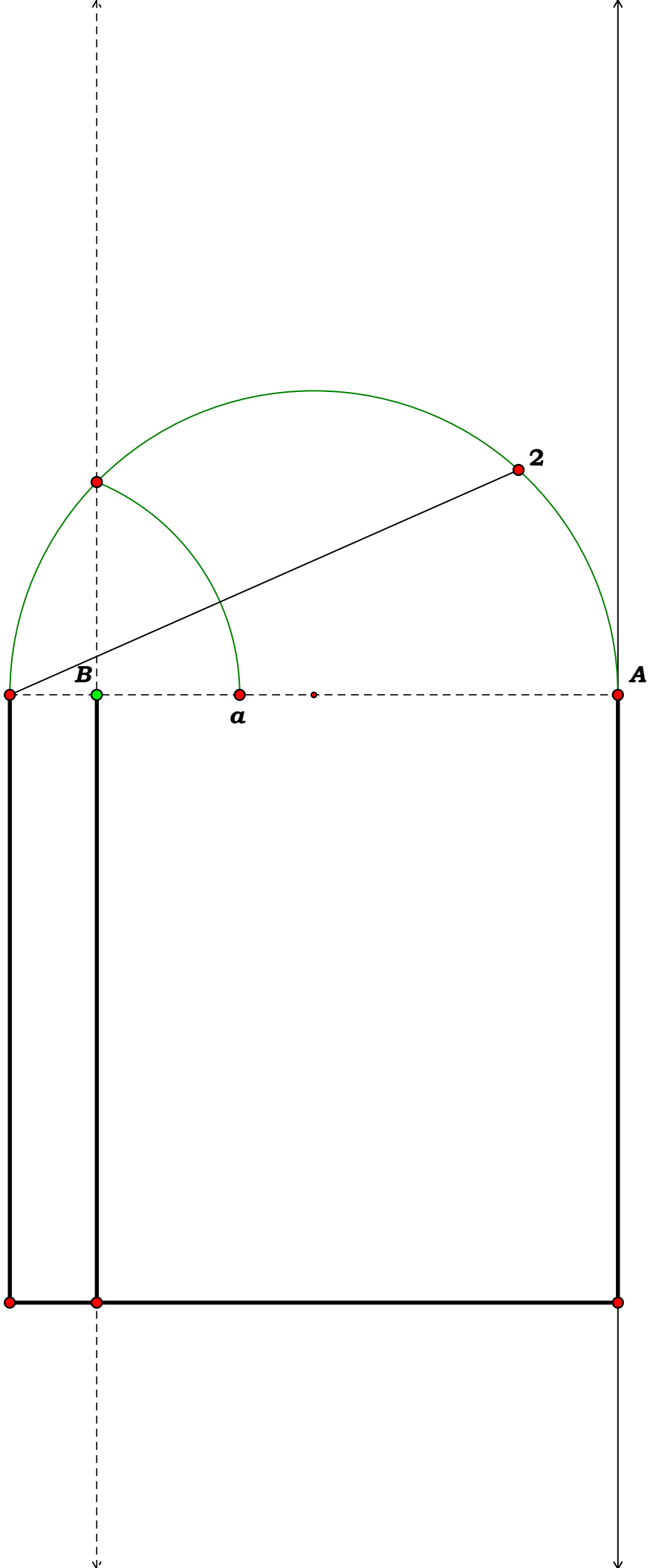
B = 1.00000

A = 7.00000

One way to divide any line by a root series. Using 7 as an example

a = 2.64575

$7^{\frac{1}{2}} - a = 0.00000$



$Unit = 1.00000$

$B = 1.00000$

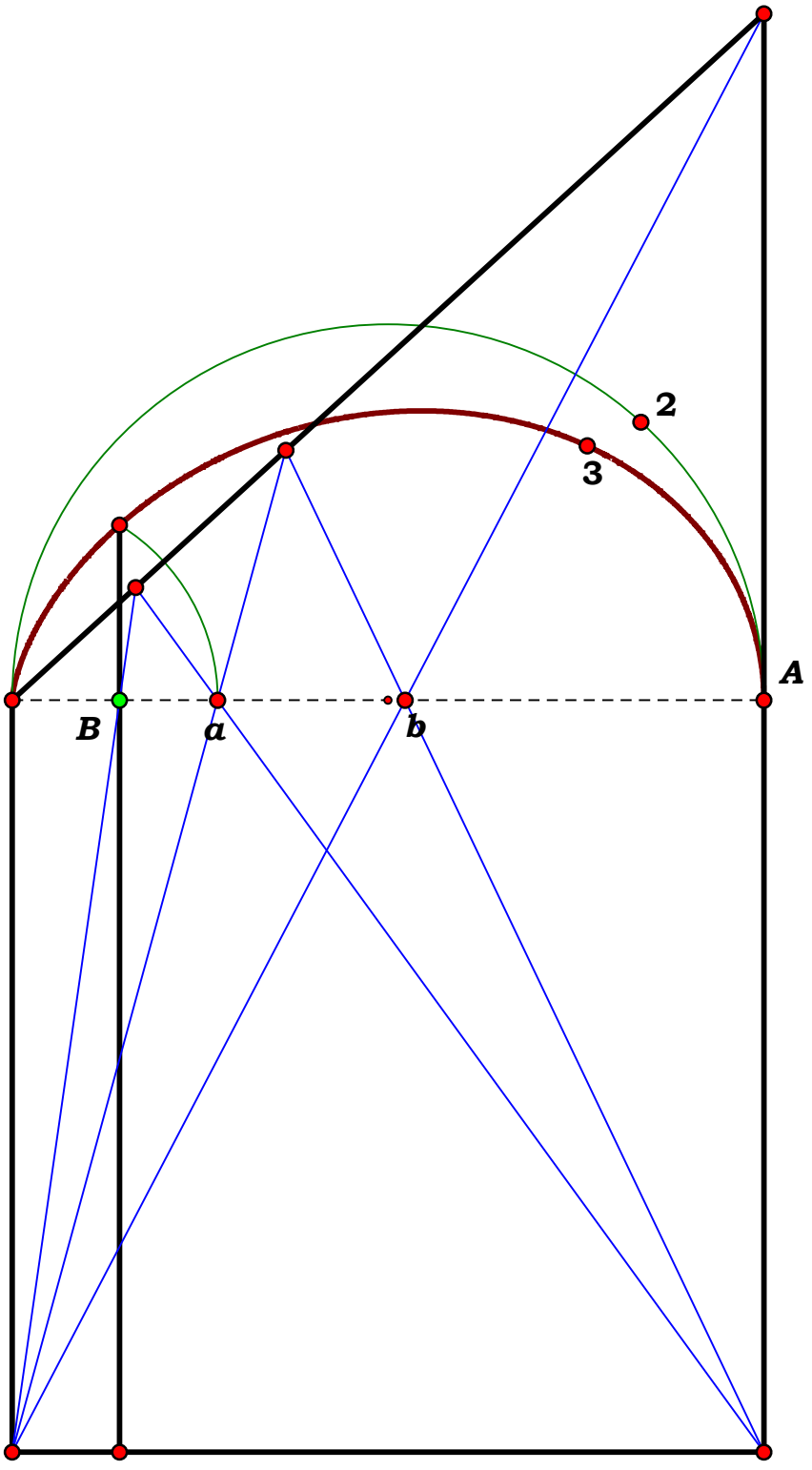
$A = 7.00000$

$a = 1.91293$

$b = 3.65931$

$7^{\frac{1}{3}} - a = 0.00000$

$7^{\frac{2}{3}} - b = 0.00000$



$Unit = 1.00000$

$B = 1.00000$

$A = 7.00000$

$a = 1.62658$

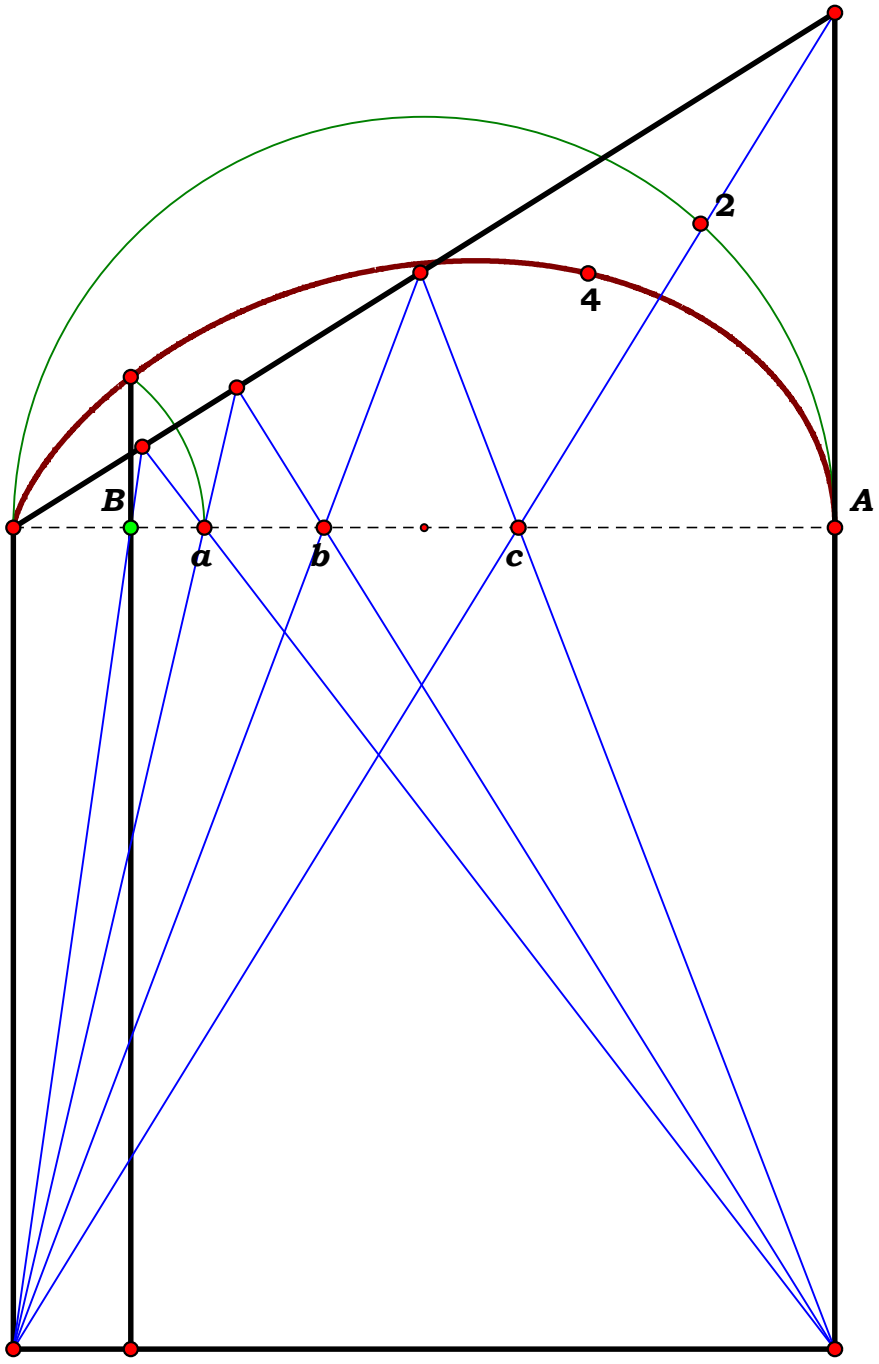
$b = 2.64575$

$c = 4.30352$

$7^{\frac{1}{4}} - a = 0.00000$

$7^{\frac{2}{4}} - b = 0.00000$

$7^{\frac{3}{4}} - c = 0.00000$



$Unit = 1.00000$

$B = 1.00000$

$A = 7.00000$

$a = 1.47577$

$b = 2.17791$

$c = 3.21410$

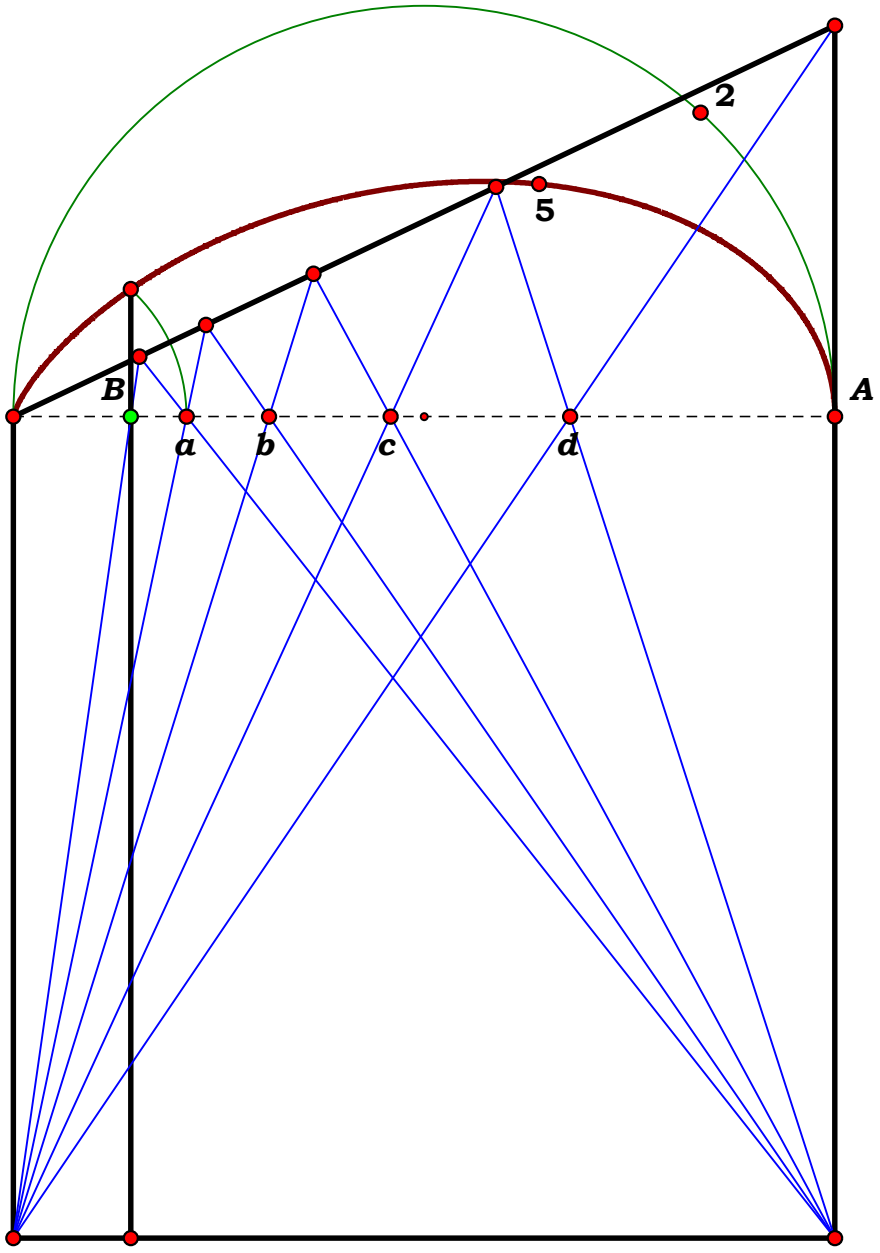
$d = 4.74328$

$7^{\frac{1}{5}} - a = 0.00000$

$7^{\frac{2}{5}} - b = 0.00000$

$7^{\frac{3}{5}} - c = 0.00000$

$7^{\frac{4}{5}} - d = 0.00000$



$Unit = 1.00000$

$B = 1.00000$

$A = 7.00000$

$a = 1.38309$

$b = 1.91293$

$c = 2.64575$

$d = 3.65931$

$e = 5.06114$

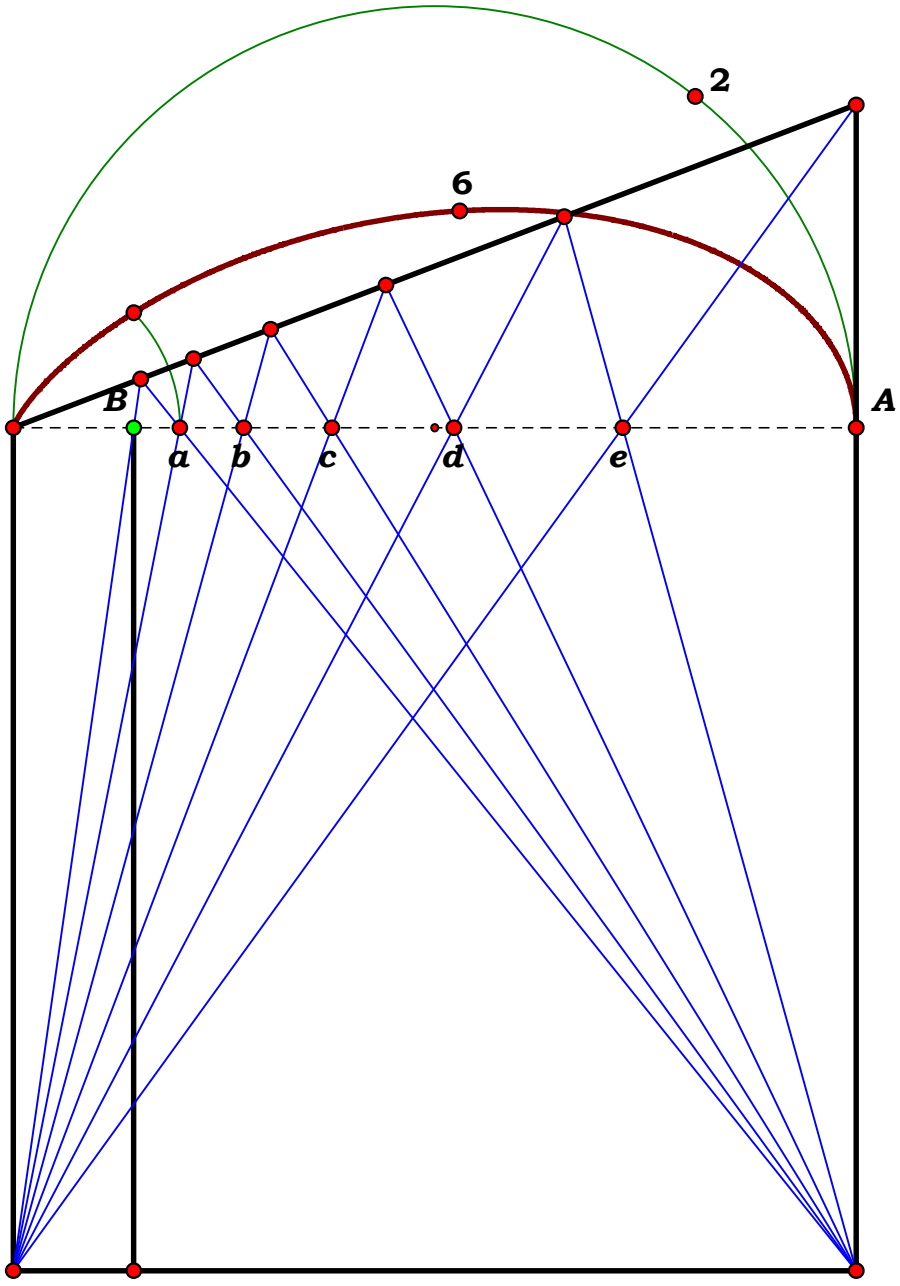
$7^{\frac{1}{6}} - a = 0.00000$

$7^{\frac{2}{6}} - b = 0.00000$

$7^{\frac{3}{6}} - c = 0.00000$

$7^{\frac{4}{6}} - d = 0.00000$

$7^{\frac{5}{6}} - e = 0.00000$



$Unit = 1.00000$

$B = 1.00000$

$A = 7.00000$

$a = 1.32047$

$b = 1.74364$

$c = 2.30242$

$d = 3.04028$

$e = 4.01459$

$f = 5.30115$

$7^{\frac{1}{7}} - a = 0.00000$

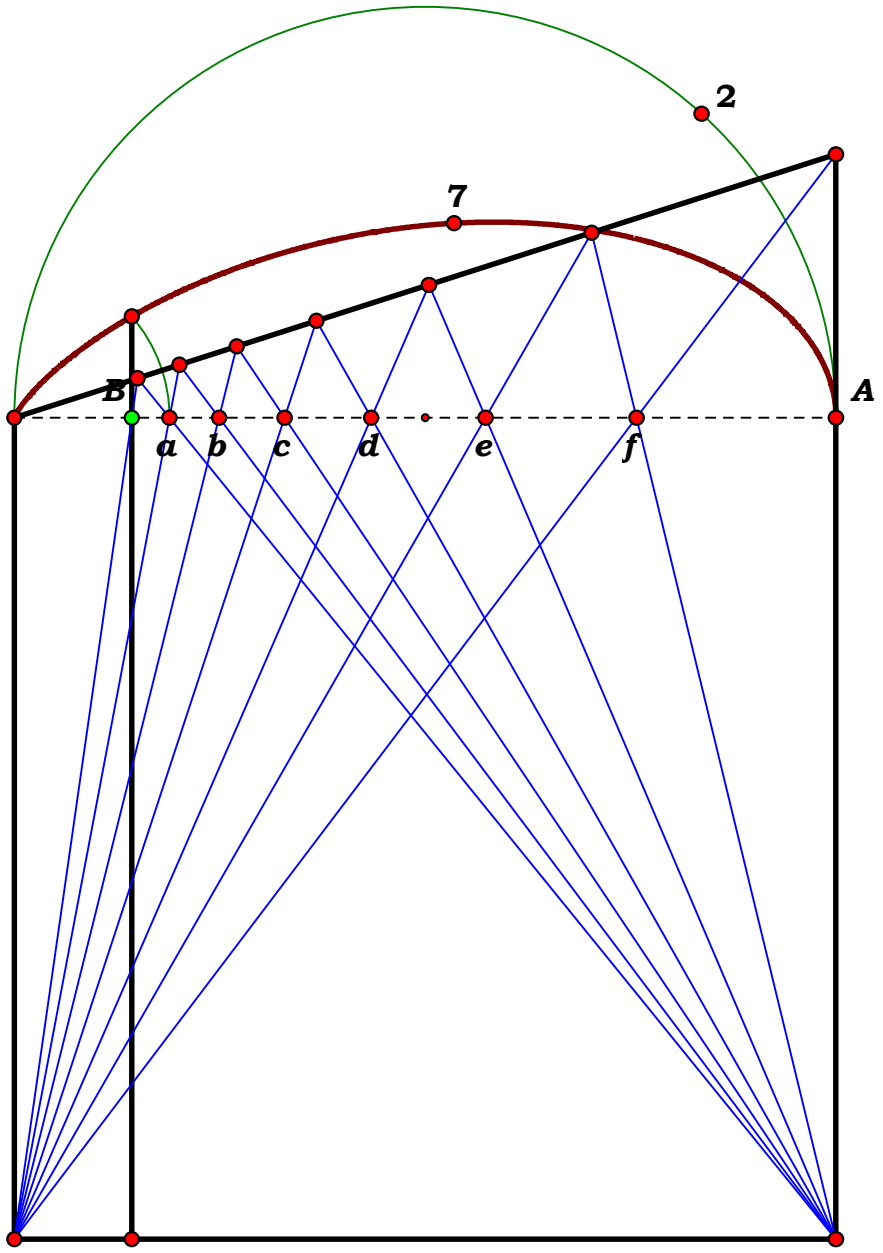
$7^{\frac{2}{7}} - b = 0.00000$

$7^{\frac{3}{7}} - c = 0.00000$

$7^{\frac{4}{7}} - d = 0.00000$

$7^{\frac{5}{7}} - e = 0.00000$

$7^{\frac{6}{7}} - f = 0.00000$



$Unit = 1.00000$

$B = 1.00000$

$A = 7.00000$

$a = 1.27537$

$b = 1.62658$

$c = 2.07449$

$d = 2.64575$

$e = 3.37432$

$f = 4.30352$

$g = 5.48859$

$7^{\frac{1}{8}} - a = 0.00000$

$7^{\frac{2}{8}} - b = 0.00000$

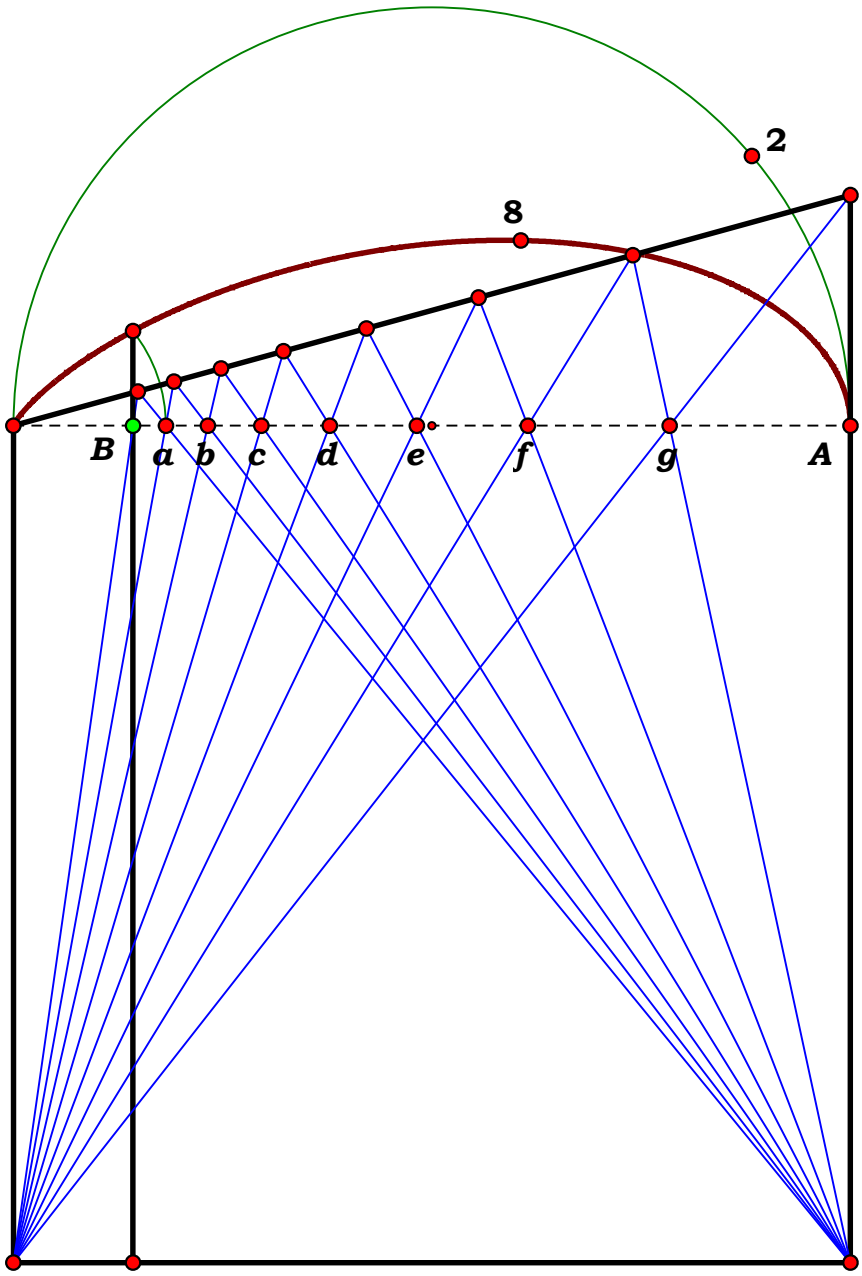
$7^{\frac{3}{8}} - c = 0.00000$

$7^{\frac{4}{8}} - d = 0.00000$

$7^{\frac{5}{8}} - e = 0.00000$

$7^{\frac{6}{8}} - f = 0.00000$

$7^{\frac{7}{8}} - g = 0.00000$



$Unit = 1.00000$

$B = 1.00000$

$A = 7.00000$

$a = 1.24137$

$b = 1.54099$

$c = 1.91293$

$d = 2.37465$

$e = 2.94781$

$f = 3.65931$

$g = 4.54254$

$h = 5.63895$

$7^{\frac{1}{9}} - a = 0.00000$

$7^{\frac{2}{9}} - b = 0.00000$

$7^{\frac{3}{9}} - c = 0.00000$

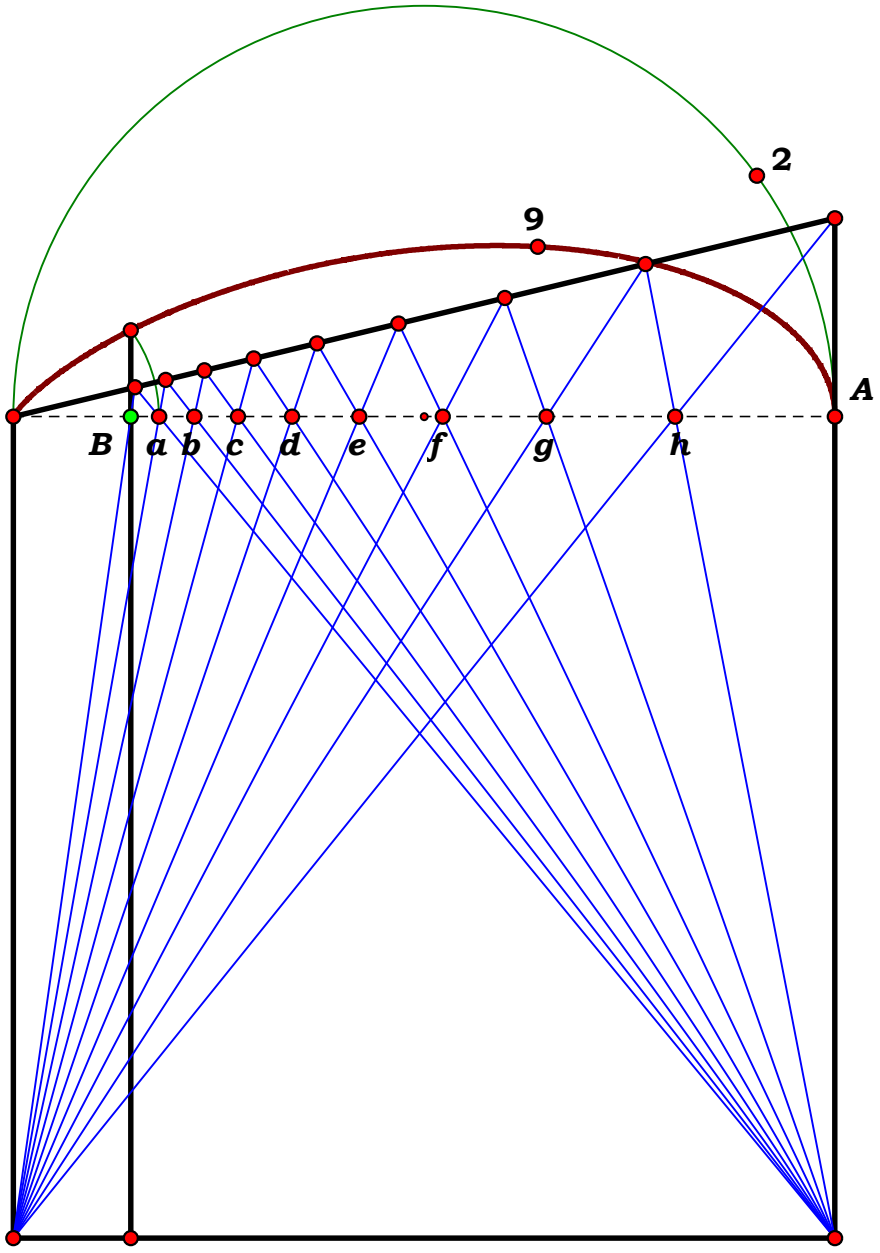
$7^{\frac{4}{9}} - d = 0.00000$

$7^{\frac{5}{9}} - e = 0.00000$

$7^{\frac{6}{9}} - f = 0.00000$

$7^{\frac{7}{9}} - g = 0.00000$

$7^{\frac{8}{9}} - h = 0.00000$



$Unit = 1.00000$

$B = 1.00000$

$A = 7.00000$

$a = 1.21481$

$b = 1.47577$

$c = 1.79279$

$d = 2.17791$

$e = 2.64575$

$f = 3.21410$

$g = 3.90453$

$h = 4.74328$

$j = 5.76220$

$7^{\frac{1}{10}} - a = 0.00000$

$7^{\frac{2}{10}} - b = 0.00000$

$7^{\frac{3}{10}} - c = 0.00000$

$7^{\frac{4}{10}} - d = 0.00000$

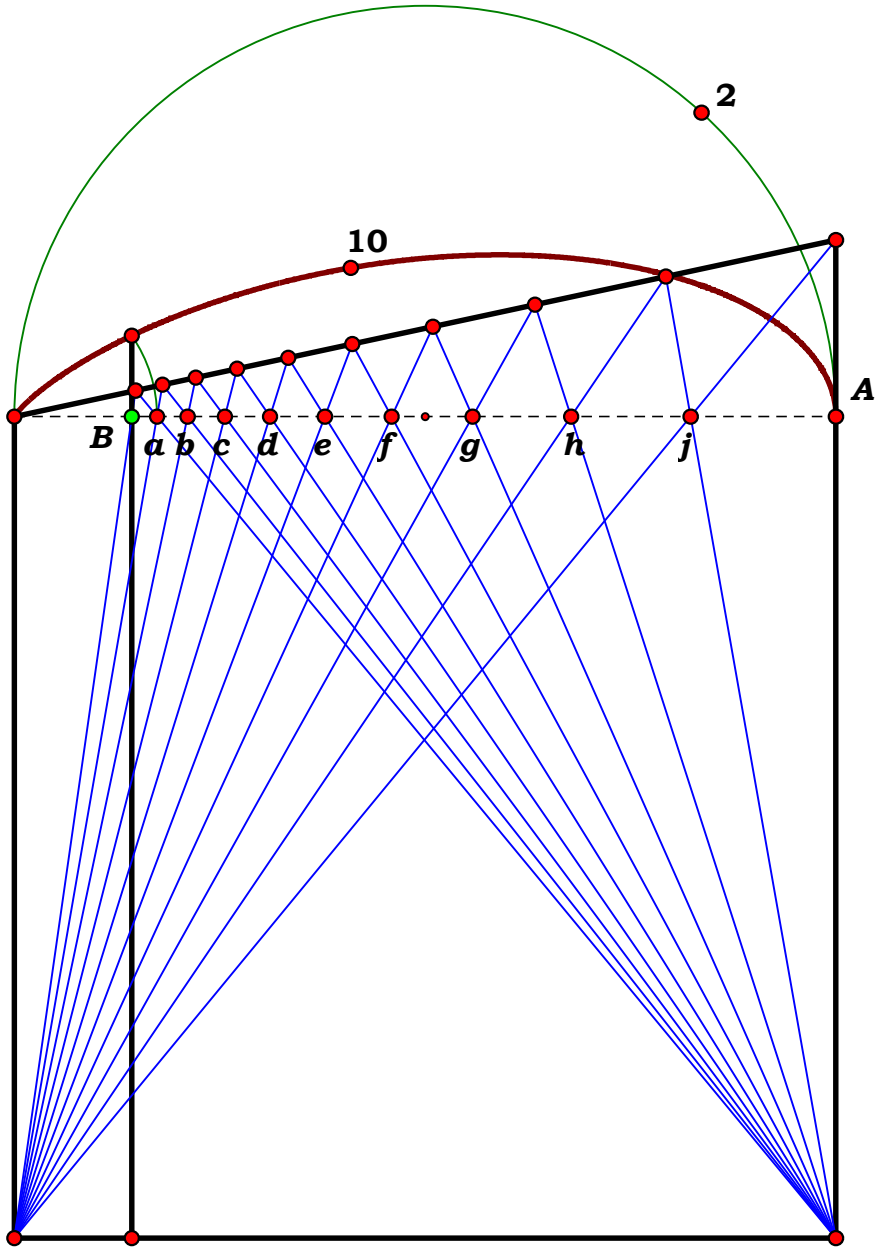
$7^{\frac{5}{10}} - e = 0.00000$

$7^{\frac{6}{10}} - f = 0.00000$

$7^{\frac{7}{10}} - g = 0.00000$

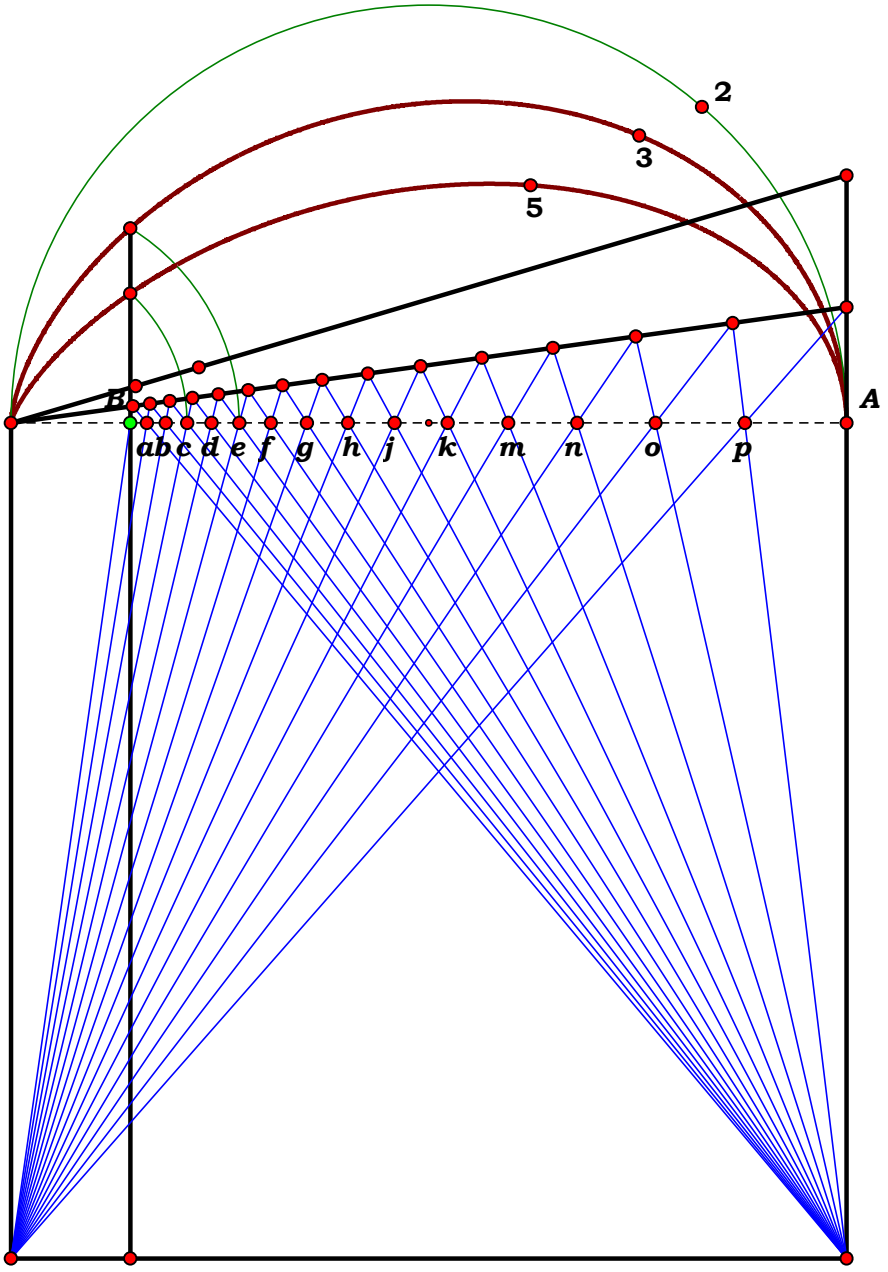
$7^{\frac{8}{10}} - h = 0.00000$

$7^{\frac{9}{10}} - j = 0.00000$

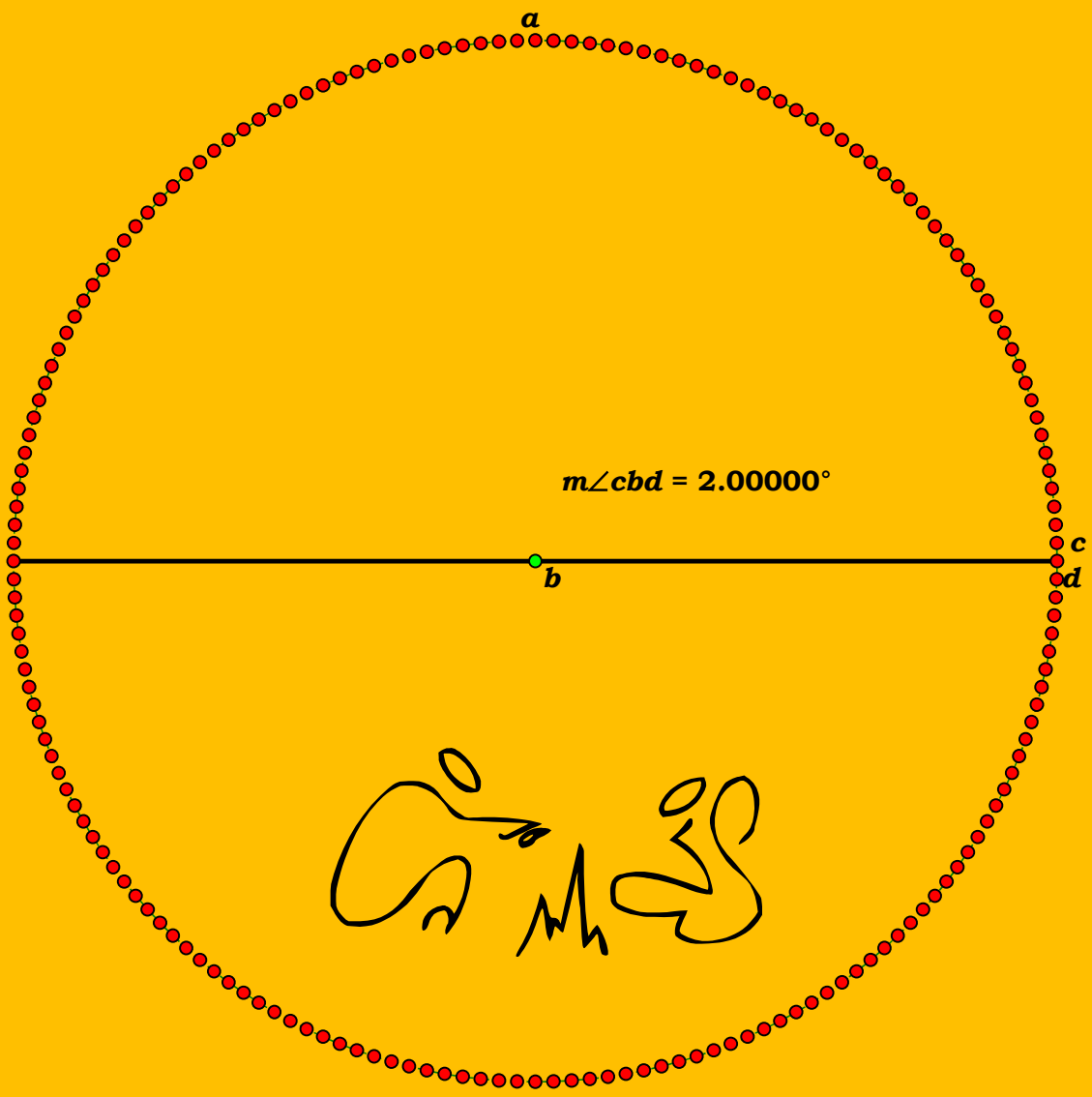


Unit = 1.00000
B = 1.00000
A = 7.00000
a = 1.13852
b = 1.29622
c = 1.47577
d = 1.68019
e = 1.91293
f = 2.17791
g = 2.47959
h = 2.82305
j = 3.21410
k = 3.65931
m = 4.16619
n = 4.74328
o = 5.40031
p = 6.14834

$7^{\frac{1}{15}} - a = 0.00000$
$7^{\frac{2}{15}} - b = 0.00000$
$7^{\frac{3}{15}} - c = 0.00000$
$7^{\frac{4}{15}} - d = 0.00000$
$7^{\frac{5}{15}} - e = 0.00000$
$7^{\frac{6}{15}} - f = 0.00000$
$7^{\frac{7}{15}} - g = 0.00000$
$7^{\frac{8}{15}} - h = 0.00000$
$7^{\frac{9}{15}} - j = 0.00000$
$7^{\frac{10}{15}} - k = 0.00000$
$7^{\frac{11}{15}} - m = 0.00000$
$7^{\frac{12}{15}} - n = 0.00000$
$7^{\frac{13}{15}} - o = 0.00000$
$7^{\frac{14}{15}} - p = 0.00000$



Angle Management

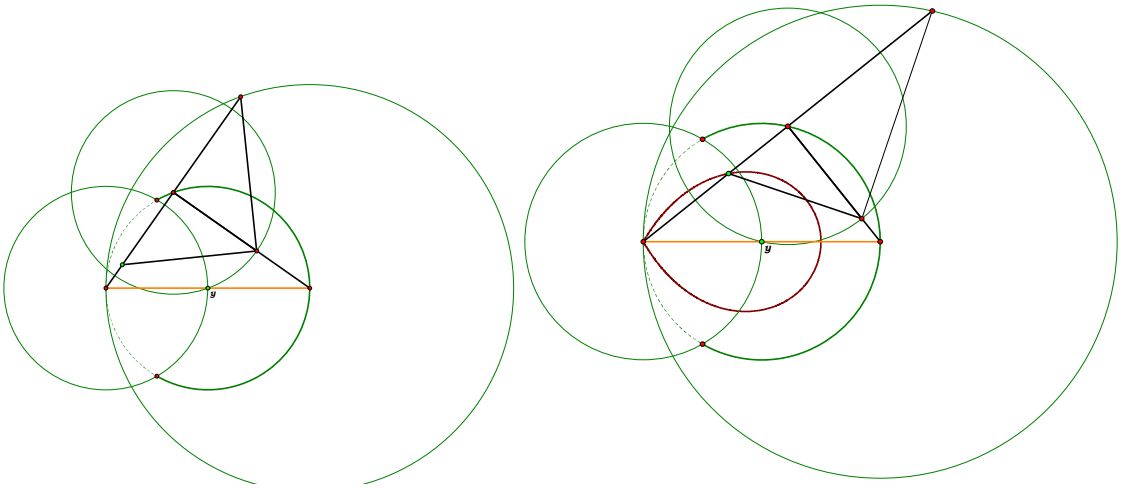


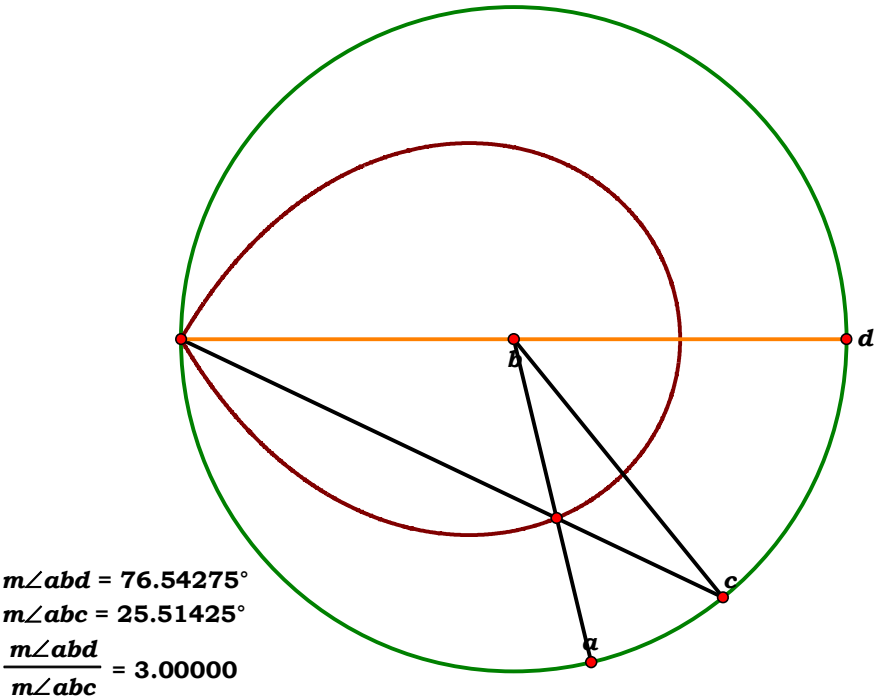
John Clark

Introduction

The Perfect Trisector

The motivation to perform the operations in Perfect Memory actually comes from a completely straightforward method of trisection using memory.





Perfect Memory

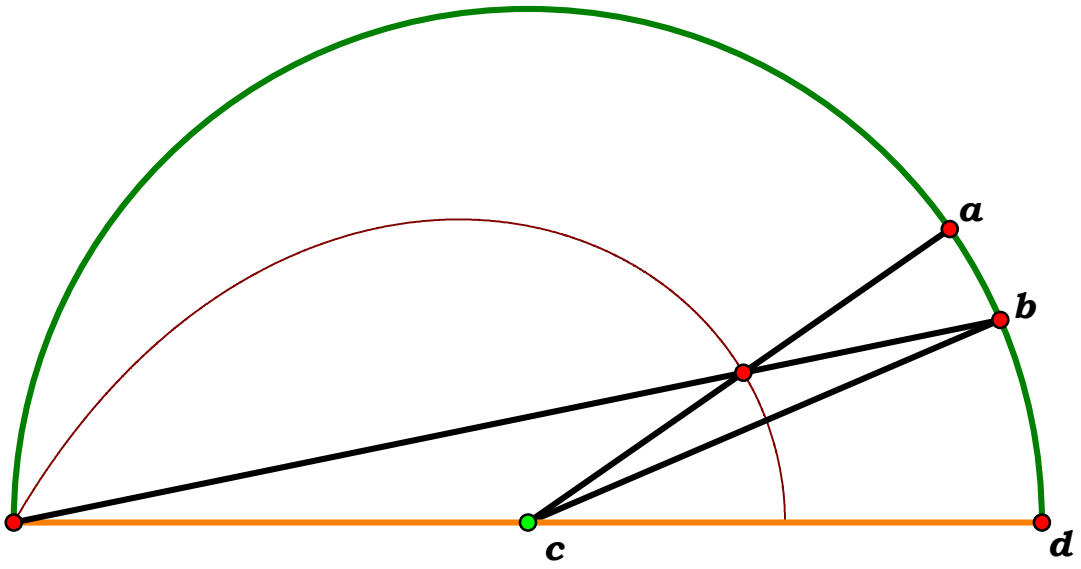
One of fundamentals for Philosophy, as Plato declared, is good memory. No one with a bad memory can be a philosopher. It is one reason why Plato recognized Geometry as our Meta-Grammar.

One of the best reason's that Geometry is our Meta-Grammar, is that it uses perfect memory. Written Grammar is a method of memory management. In order to do our own work as potentially the most powerful life support system possible, we require perfect memory.

Our other systems of grammar such as Common Grammar, Arithmetic and Algebra require memory assistance, but Geometry is pure memory. Every line is a locus, every circle is a locus, or in short what is meant by the word locus is the memory of some relative difference, even if that relative difference was only the motion of a hand writing a line, a circle, or even perfectly dividing a circle into any number of equal angles.

Watch how to use memory, to divide any angle into any number of equal parts.

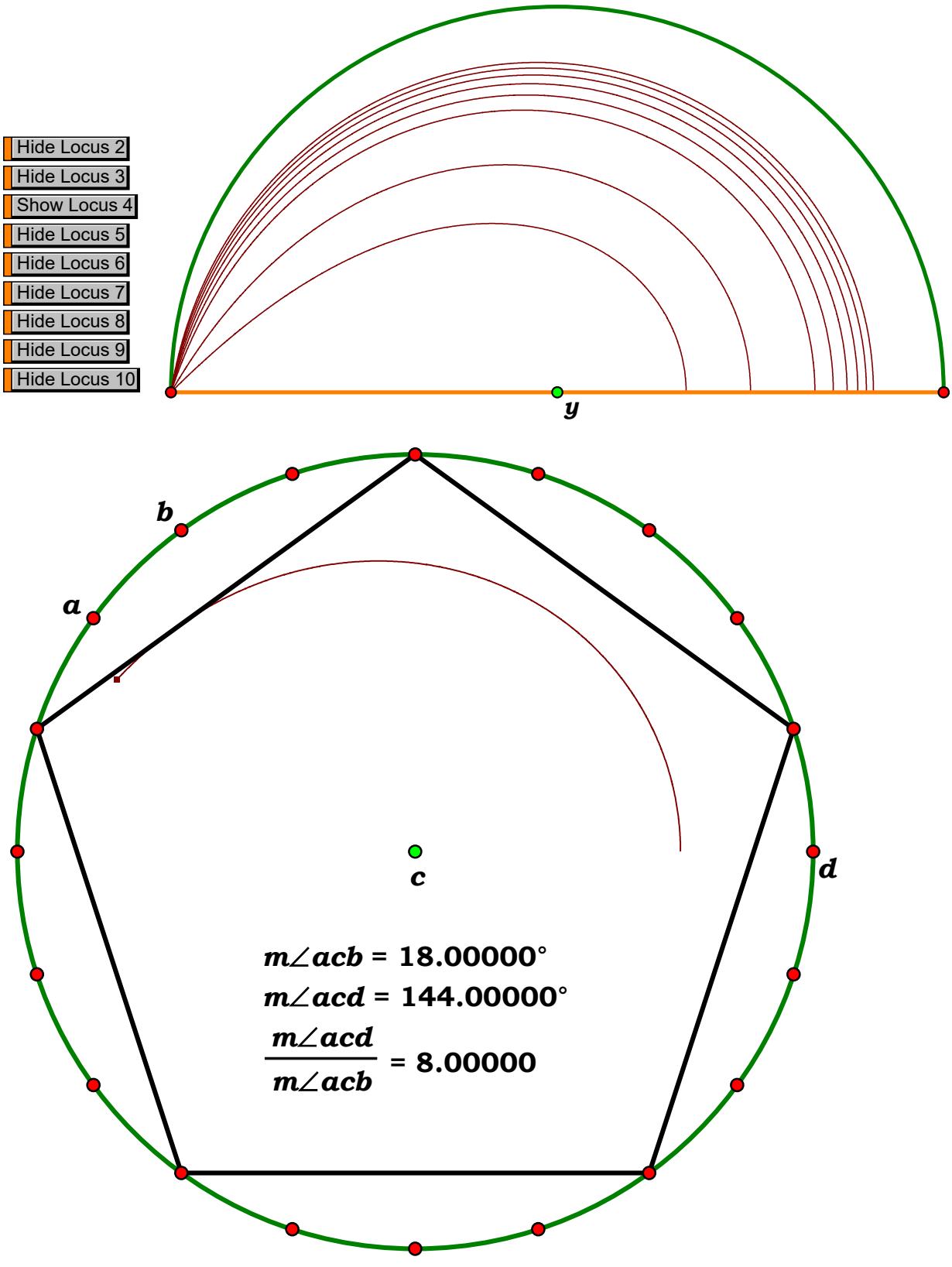
With work, one can divide the circle into much more than 360 equal parts. By design, Geometry is effected by perfect memory, even though, the week minded simply tend to wander off topic and loose themselves in the banana-sphere.

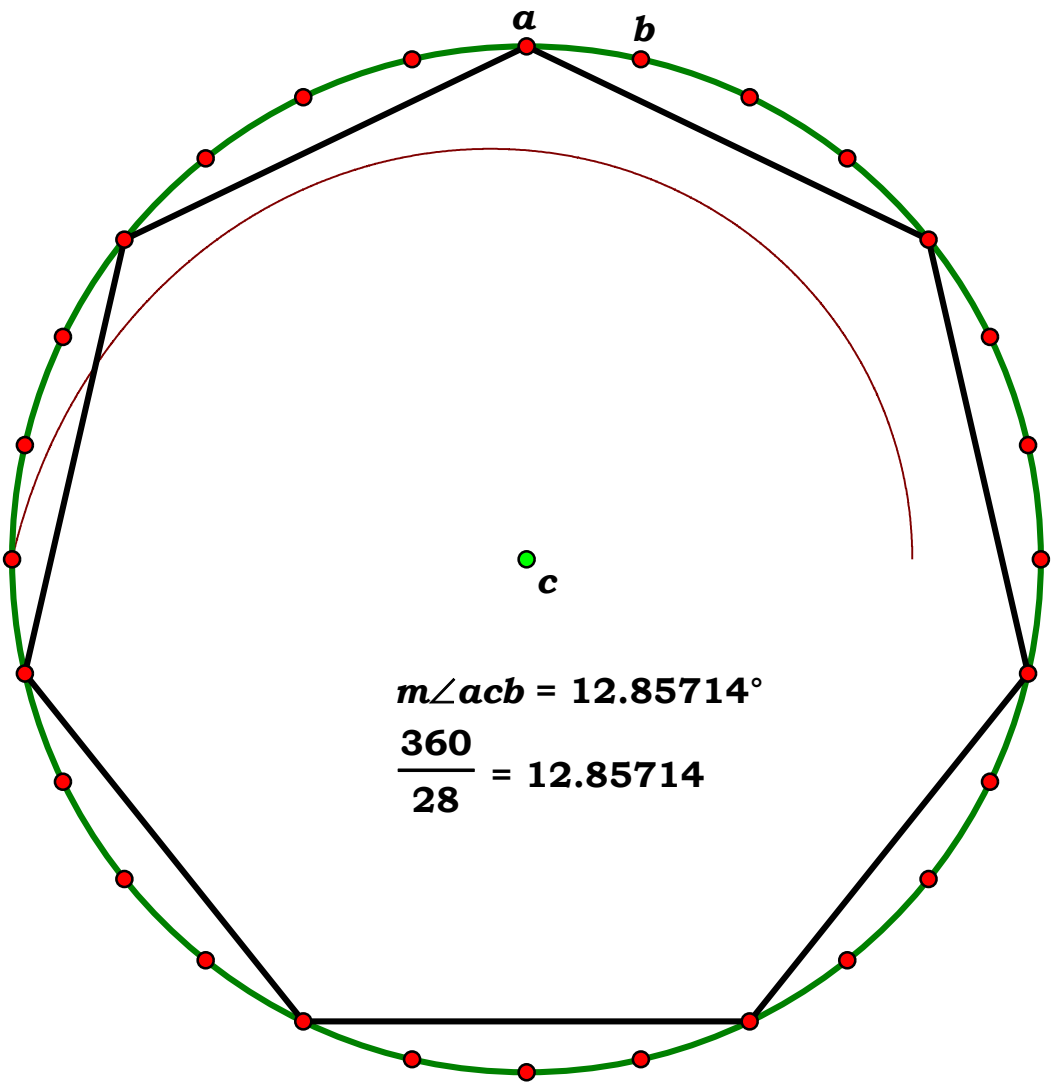


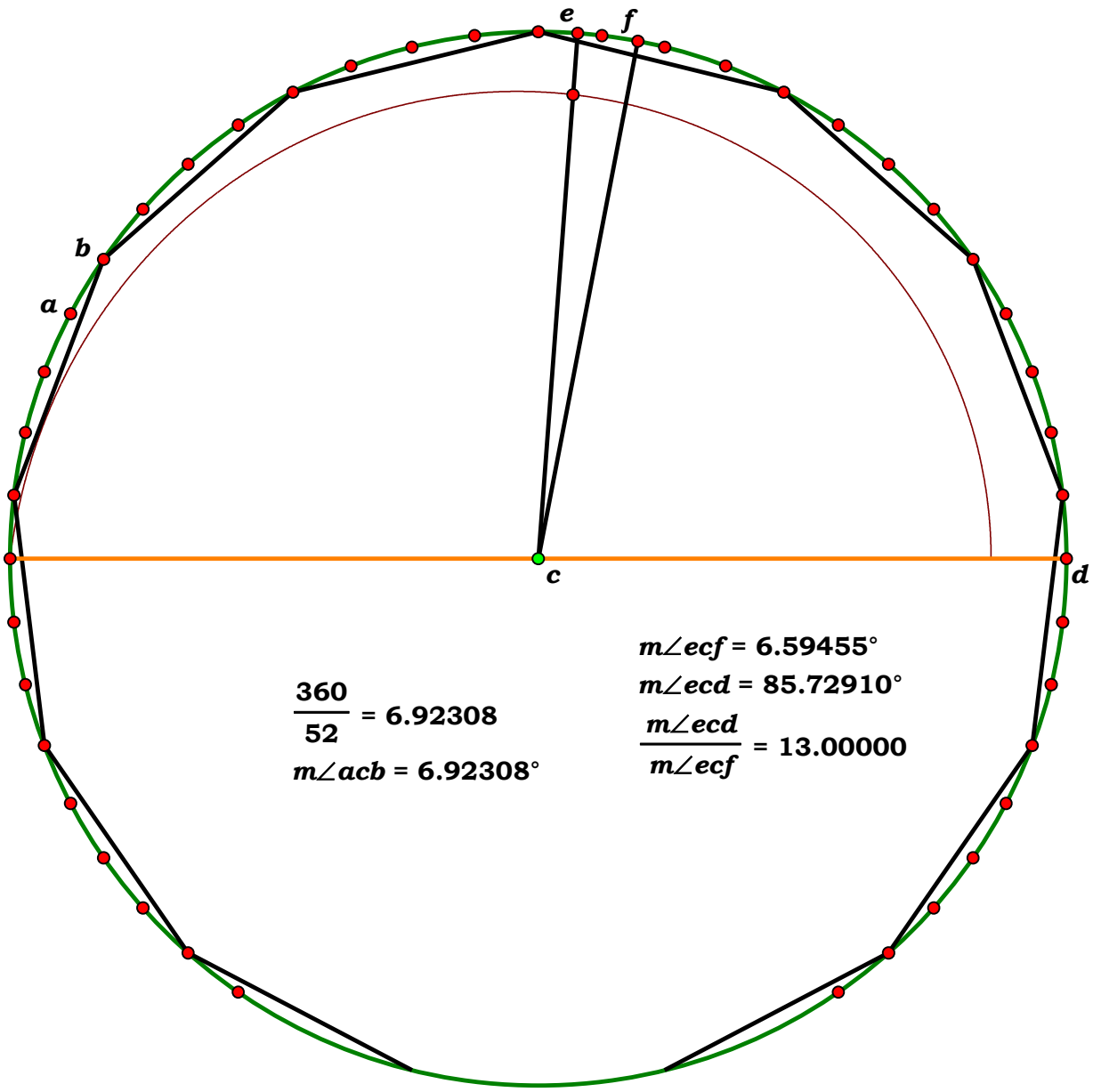
$m\angle acd = 34.84792°$

$m\angle acb = 11.61597°$

$\frac{m\angle acd}{m\angle acb} = 3.00000$


Hide Locus 2
Hide Locus 3
Show Locus 4
Hide Locus 5
Hide Locus 6
Hide Locus 7
Hide Locus 8
Hide Locus 9
Hide Locus 10
y
b
a
c
d
m∠acb = 18.00000°
m∠acd = 144.00000°
m∠acd / m∠acb = 8.00000


a
b
c
m∠acb = 12.85714°
360
28
= 12.85714



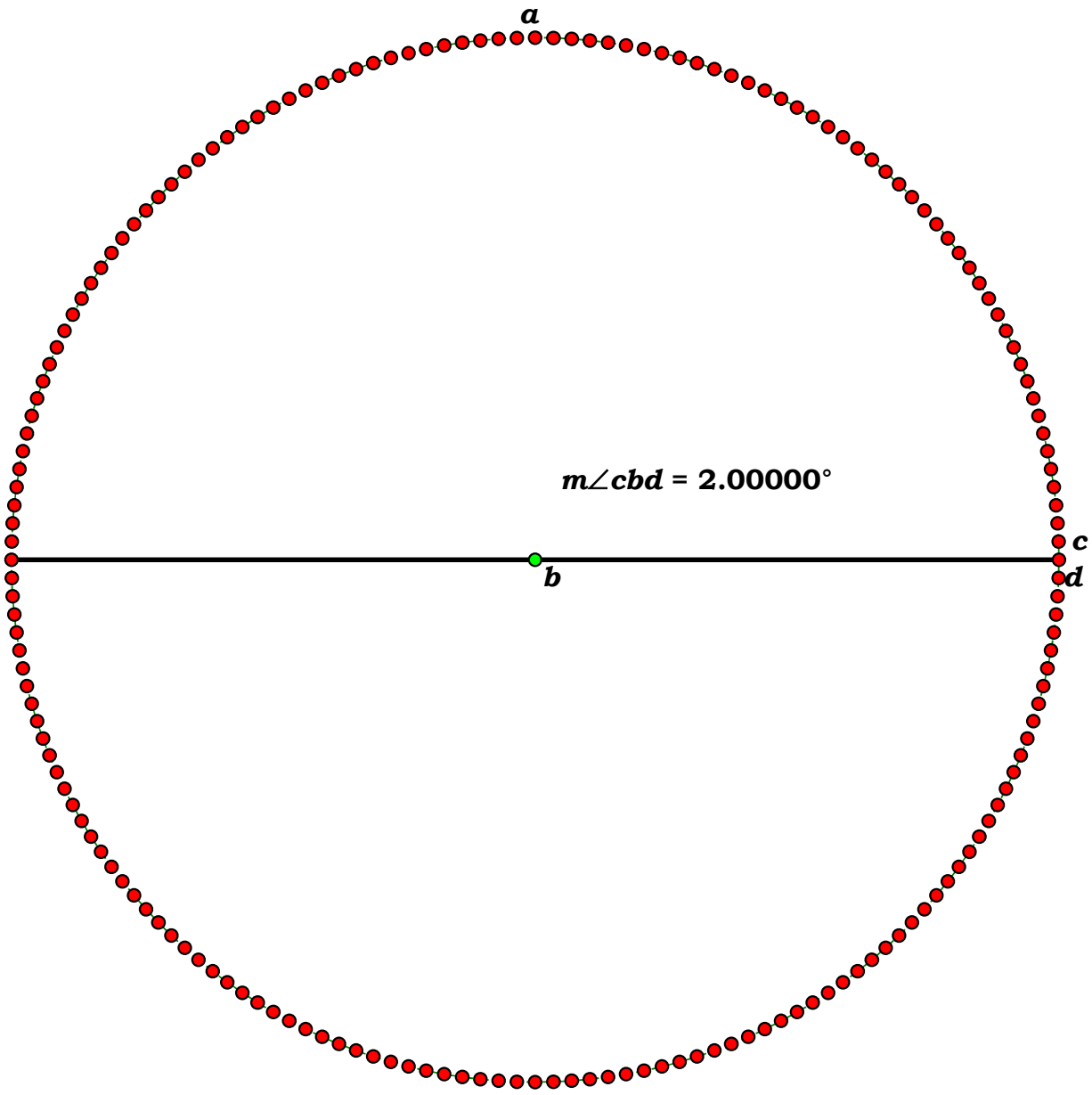
$\frac{360}{52} = 6.92308$

$m\angle acb = 6.92308°$

$m\angle ecf = 6.59455°$

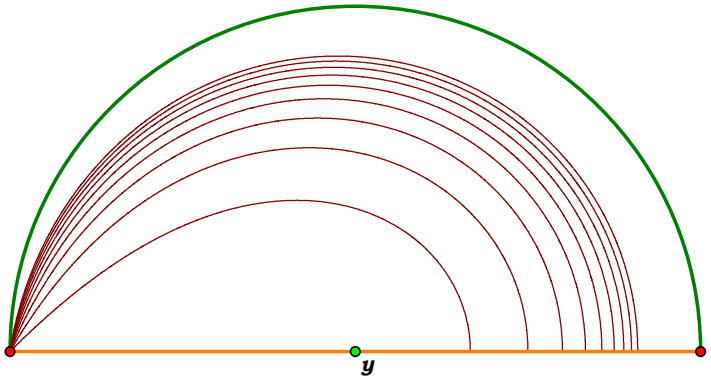
$m\angle ecd = 85.72910°$

$\frac{m\angle ecd}{m\angle ecf} = 13.00000$



We can start with 2 degrees.

Building an angle computer



Unit = 1.00000

Show Locus 2
Show Locus 3
Show Locus 4
Show Locus 5
Show Locus 6
Show Locus 7
Show Locus 8
Show Locus 9
Show Locus 10
Show Objects
Show 6
Show 7
Show 8
Show 9
Show 10
Move Point
Hide Intersections

Move a → 1
Move a → 2
Move a → 3
Move a → 4
Move a → 5
Move a → 6
Move a → 7
Move a → 8
Move a → 9
Move a → 10
Move a → 11
Move a → 12
Move a → 13
Move a → 14
Move a → 15
Move a → 16
Move a → 17
Move a → 18
Move a → 19

Move a → 1
Move a → 2
Move a → 3
Move a → 4
Move a → 5
Move a → 6
Move a → 7
Move a → 8
Move a → 10
Move a → 11
Move a → 12
Move a → 13
Move a → 14
Move a → 15
Move a → 16
Move a → 17
Move a → 18

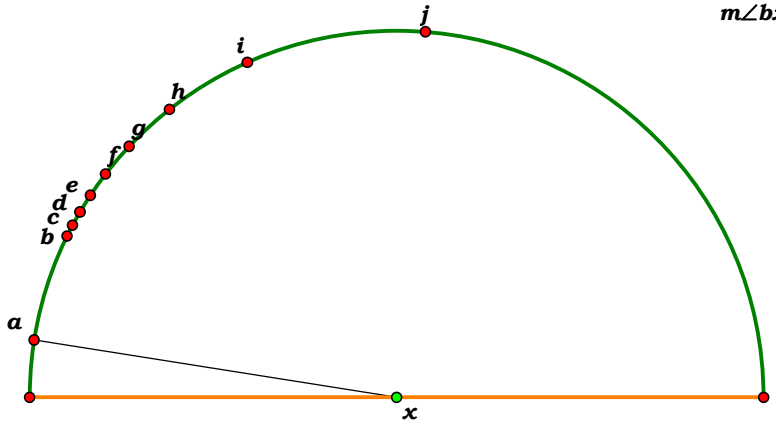
Move a → 1
Move a → 2
Move a → 3
Move a → 4
Move a → 5
Move a → 6
Move a → 7
Move a → 11
Move a → 12
Move a → 13
Move a → 14
Move a → 15
Move a → 16
Move a → 17

Move a → 1
Move a → 2
Move a → 3
Move a → 4
Move a → 5
Move a → 6
Move a → 11
Move a → 12
Move a → 13
Move a → 14
Move a → 15
Move a → 16

Move a → 1
Move a → 2
Move a → 3
Move a → 4
Move a → 5
Move a → 11
Move a → 12
Move a → 13
Move a → 14
Move a → 15

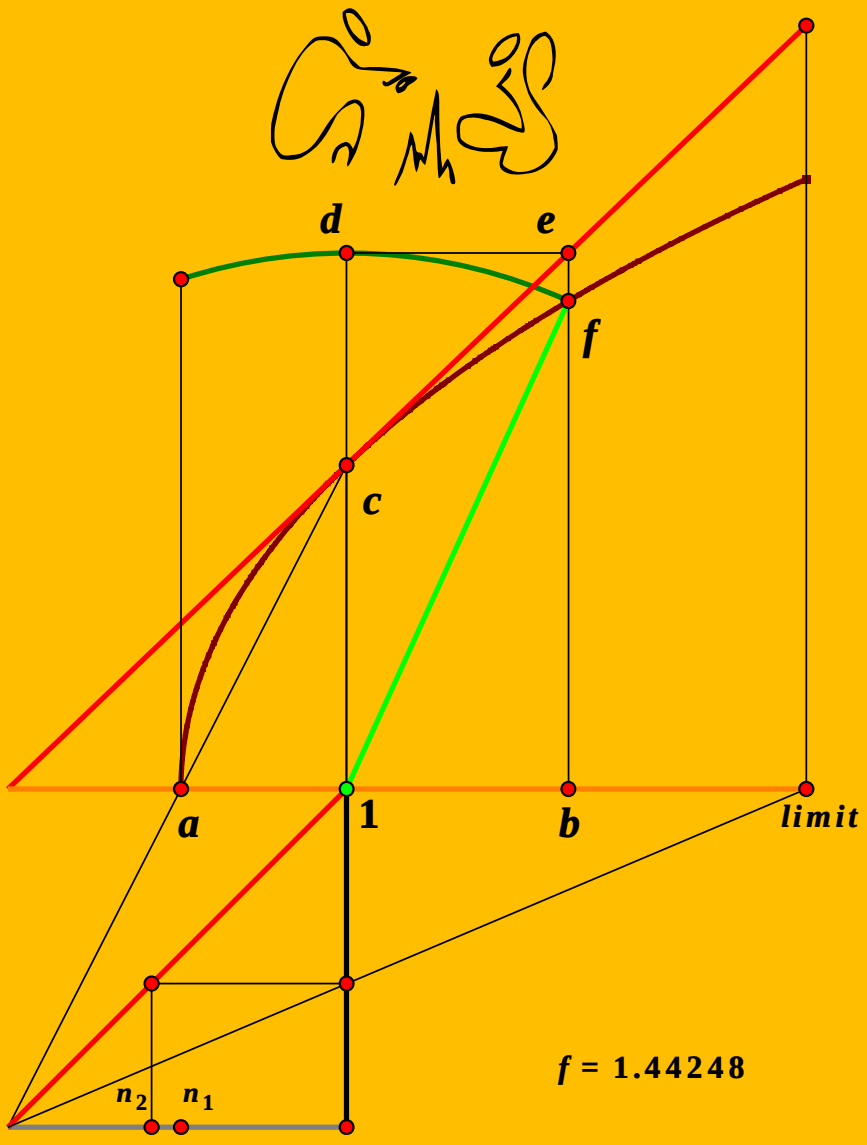
$m\angle axb$ = 17.10000°
$m\angle axc$ = 19.00000°
$m\angle axd$ = 21.37500°
$m\angle axe$ = 24.42857°
$m\angle axf$ = 28.50000°
$m\angle axg$ = 34.20000°
$m\angle axh$ = 42.75000°
$m\angle axi$ = 57.00000°
$m\angle axj$ = 85.50000°

$m\angle bxc$ = 1.90000°
$m\angle bxd$ = 4.27500°
$m\angle bxe$ = 7.32857°
$m\angle bxf$ = 11.40000°
$m\angle bxg$ = 17.10000°
$m\angle bxh$ = 25.65000°
$m\angle bxi$ = 39.90000°
$m\angle bxj$ = 68.40000°



Straight on, we can divide the circle into tenths of a degree, or 3600, parts.

The Conic Section Revisited



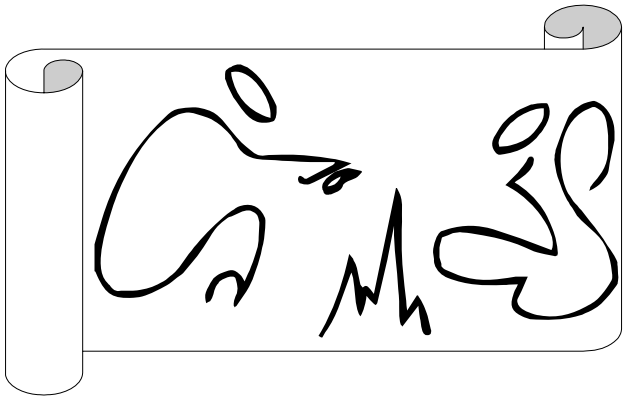
$f = 1.44248$

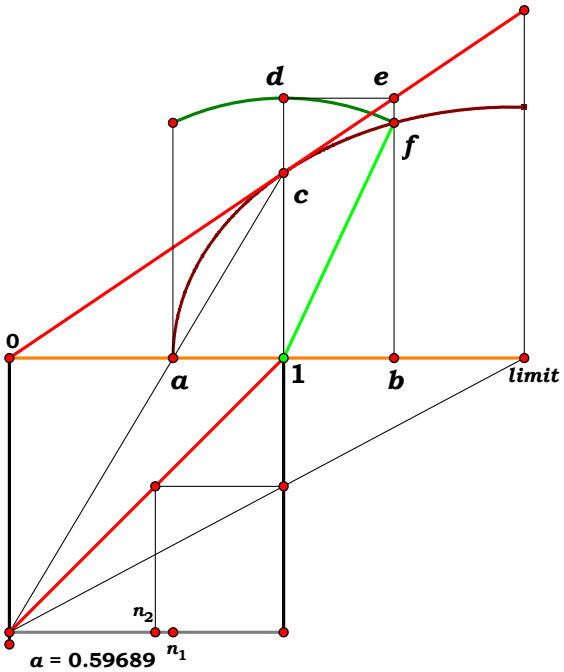
$a = 0.51091$

$b = 1.65483$

$$f - \frac{\sqrt{(a-b)\cdot(2\cdot a\cdot b-(a+b))}}{a} = 0.00000$$

John Clark





The Conic Section

Given

a is any point between 0- and 1. b is greater than a.

$a := .64193 \qquad b := 1.42015$

Descriptions.

$$c := \frac{(1-a)}{a} \qquad be := b \cdot c \qquad bf := \sqrt{be^2 - (b-1)^2}$$

Definitions.

$$c - \frac{(1-a)}{a} = 0 \qquad be - \frac{b \cdot (1-a)}{a} = 0$$

$$bf - \frac{\sqrt{(a-b) \cdot (2 \cdot a \cdot b - b - a)}}{a} = 0$$

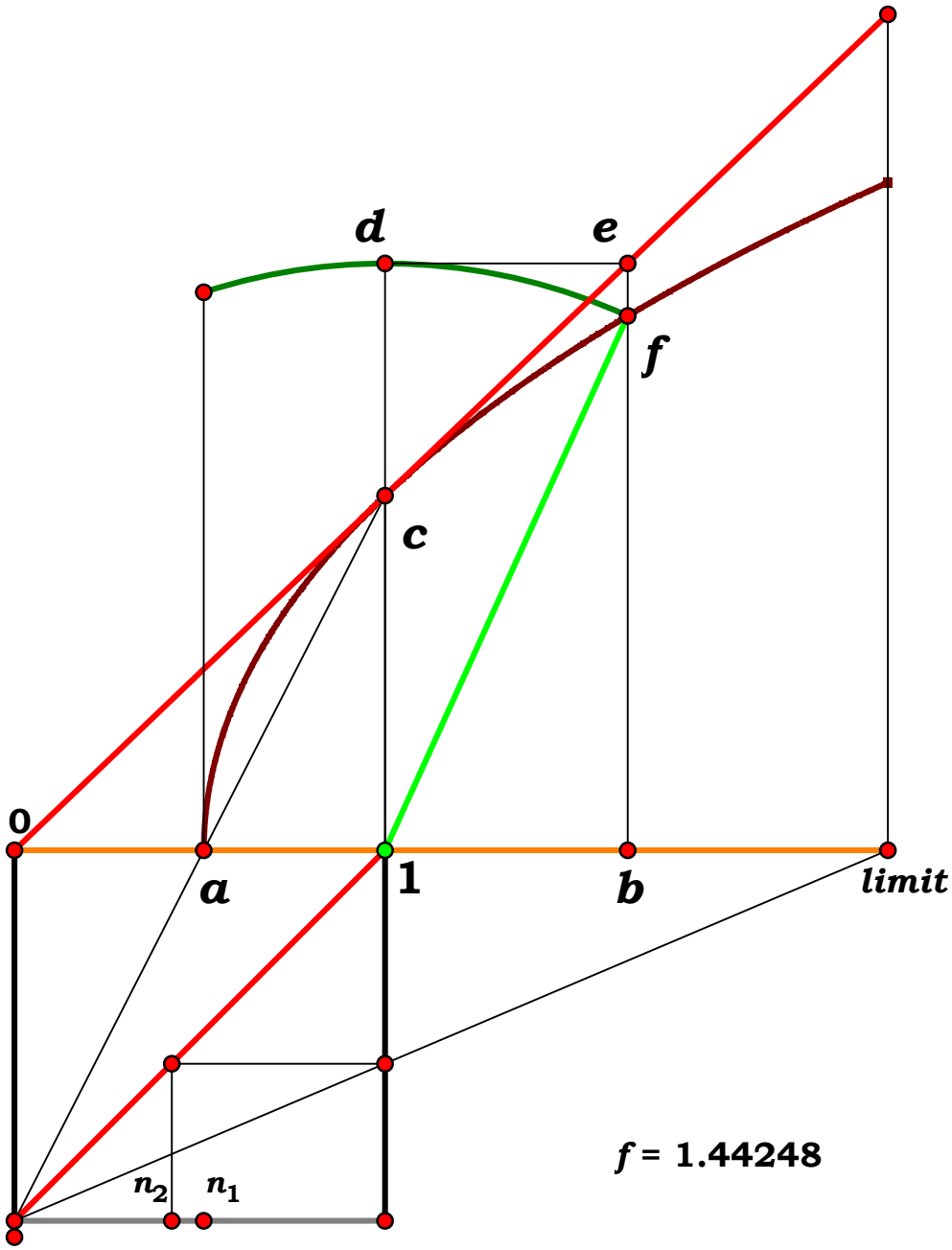
$$bf - \frac{\sqrt{\left(2 \cdot a^2 \cdot b - a^2 + b^2 - 2 \cdot a \cdot b^2\right)}}{a} = 0$$

Hide Point n_2

Hide Point n_1

$n_1 \to 1$ $n_1 \to 2$ $n_1 \to 3$ $n_1 \to 4$ $n_1 \to 5$ $n_1 \to 6$ $n_1 \to 7$ $n_1 \to 8$ $n_1 \to 9$ $n_1 \to 10$ $n_1 \to 11$ $n_1 \to 12$ $n_1 \to 13$ $n_1 \to 14$ $n_1 \to 15$ $n_1 \to 16$ $n_1 \to 17$ $n_1 \to 18$ $n_1 \to 19$ $n_1 \to 20$ $n_1 \to 21$ $n_1 \to 22$ $n_1 \to 23$

$n_2 \to 1$ $n_2 \to 2$ $n_2 \to 3$ $n_2 \to 4$ $n_2 \to 5$ $n_2 \to 6$ $n_2 \to 7$ $n_2 \to 8$ $n_2 \to 9$ $n_2 \to 10$ $n_2 \to 11$ $n_2 \to 12$ $n_2 \to 13$ $n_2 \to 14$ $n_2 \to 15$ $n_2 \to 16$ $n_2 \to 17$ $n_2 \to 18$ $n_2 \to 19$ $n_2 \to 20$ $n_2 \to 21$ $n_2 \to 22$ $n_2 \to 23$

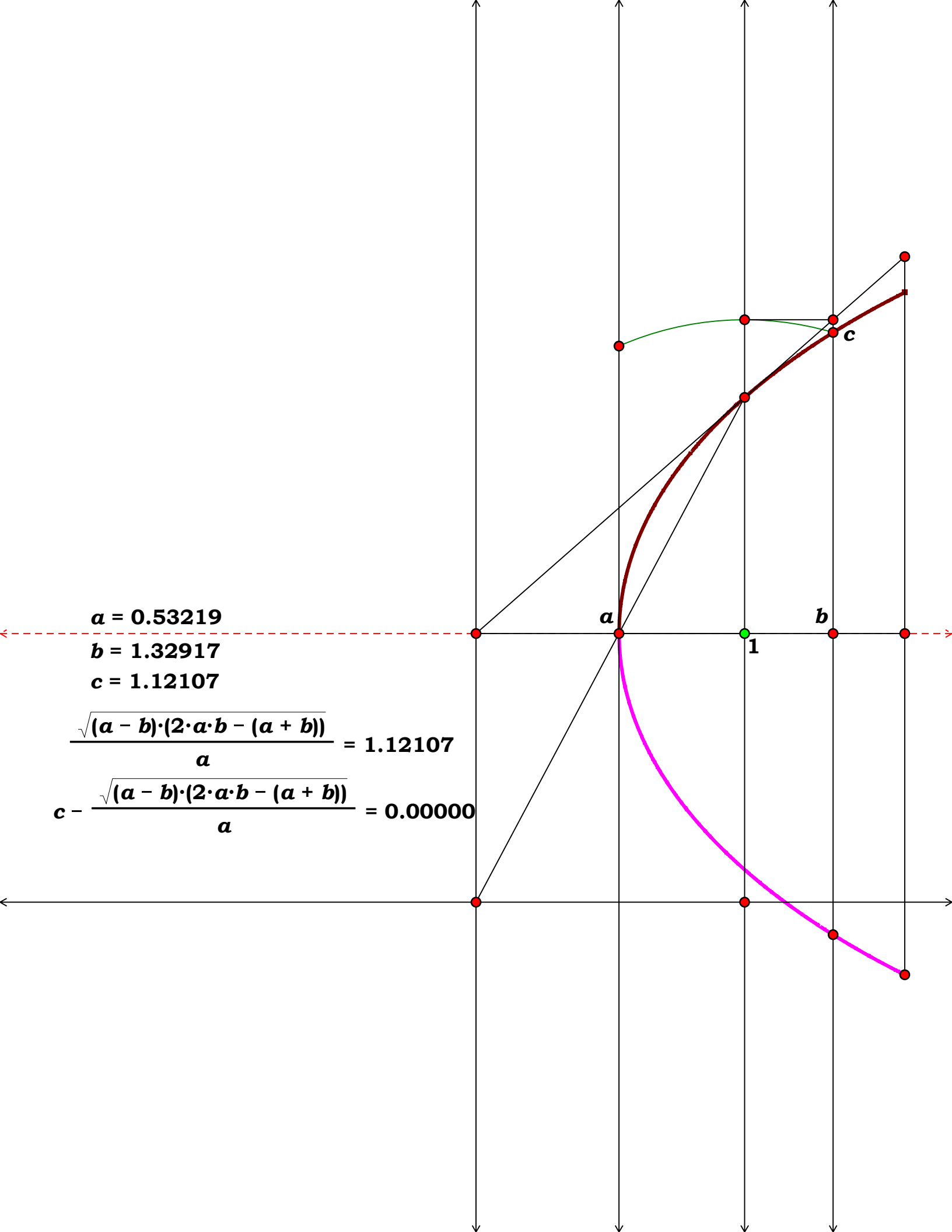


$f = 1.44248$

$a = 0.51091$

$b = 1.65483$

$$f - \frac{\sqrt{(a-b)\cdot(2\cdot a\cdot b-(a+b))}}{a} = 0.00000$$


a = 0.53219
b = 1.32917
c = 1.12107
$\frac{\sqrt{(a-b)\cdot(2\cdot a\cdot b-(a+b))}}{a} = 1.12107$
$c - \frac{\sqrt{(a-b)\cdot(2\cdot a\cdot b-(a+b))}}{a} = 0.00000$
a
b
1
c

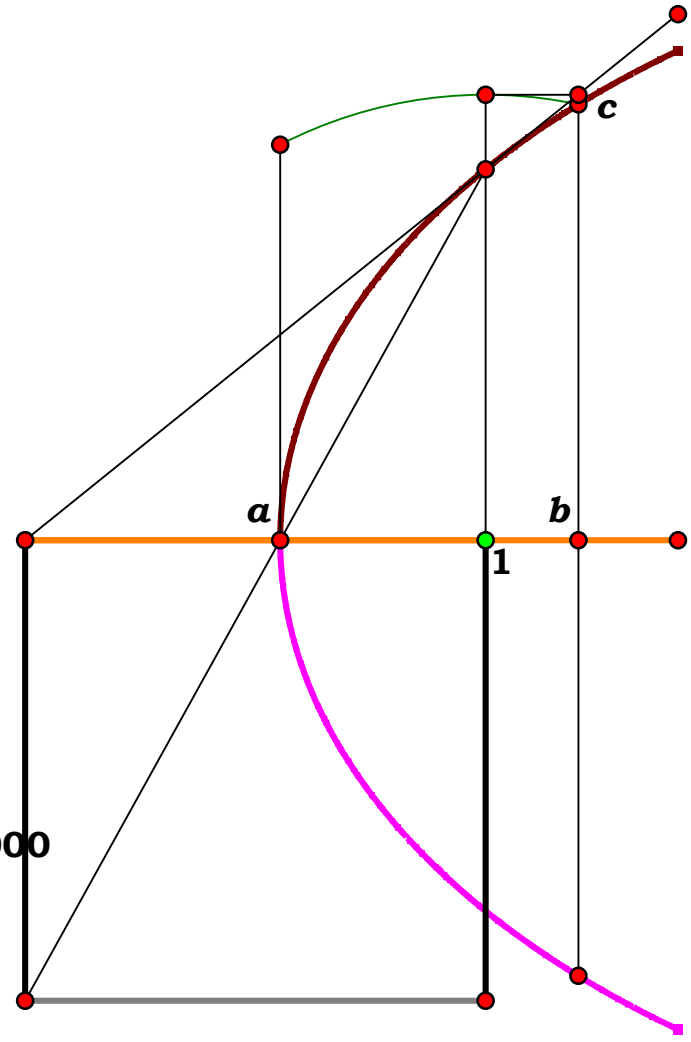
$a = 0.55390$

$b = 1.20122$

$c = 0.94627$

$$\frac{\sqrt{(a-b)\cdot(2\cdot a\cdot b-(a+b))}}{a} = 0.94627$$

$$c - \frac{\sqrt{(a-b)\cdot(2\cdot a\cdot b-(a+b))}}{a} = 0.00000$$



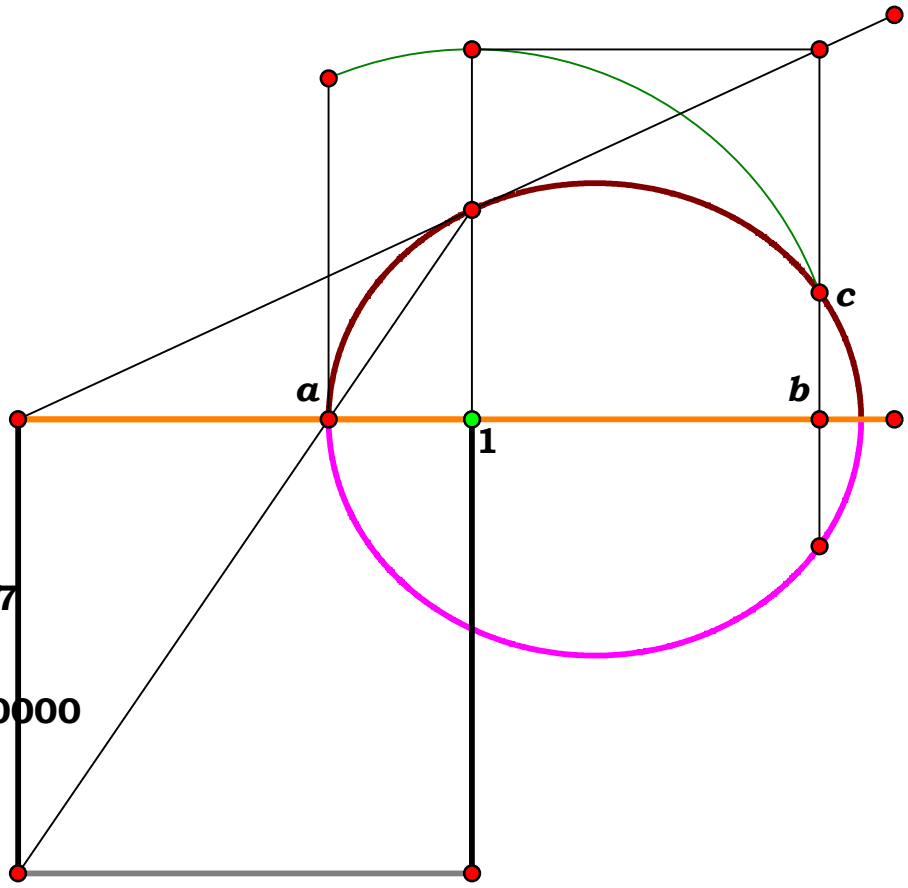
$a = 0.68420$

$b = 1.76551$

$c = 0.27937$

$$\frac{\sqrt{(a-b)\cdot(2\cdot a\cdot b-(a+b))}}{a} = 0.27937$$

$$c - \frac{\sqrt{(a-b)\cdot(2\cdot a\cdot b-(a+b))}}{a} = 0.00000$$



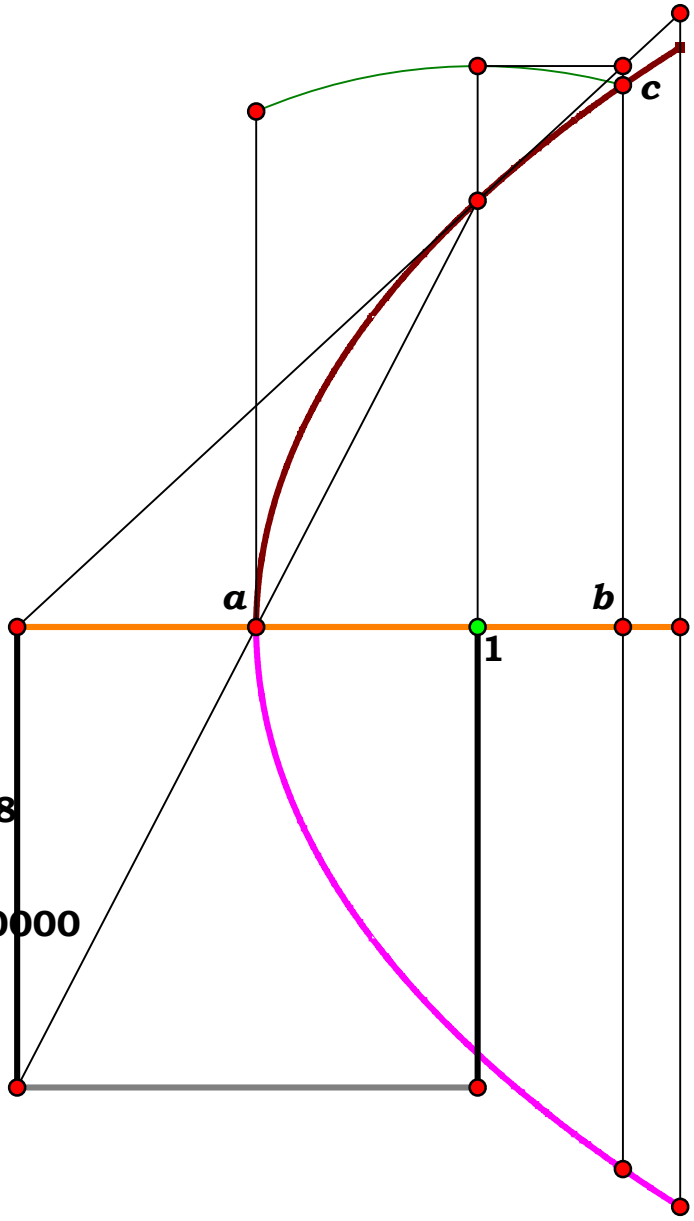
$a = 0.51916$

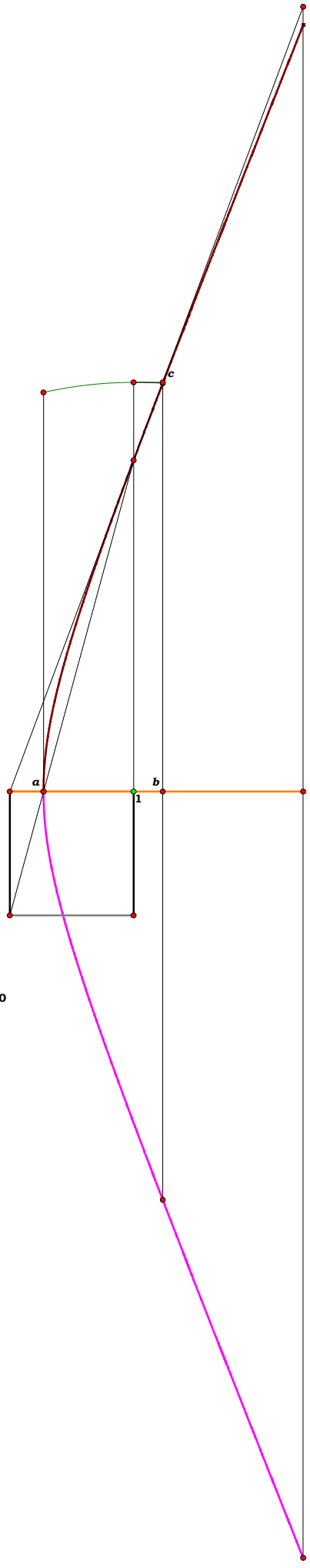
$b = 1.31567$

$c = 1.17698$

$$\frac{\sqrt{(a-b)\cdot(2\cdot a\cdot b-(a+b))}}{a} = 1.17698$$

$$c - \frac{\sqrt{(a-b)\cdot(2\cdot a\cdot b-(a+b))}}{a} = 0.00000$$





$\frac{a}{c} = 0.08255$

$a = 0.27211$

$b = 1.23534$

$c = 3.29612$

$\frac{\sqrt{(a - b)\cdot(2\cdot a\cdot b - (a + b))}}{a} = 3.29612$

$c - \frac{\sqrt{(a - b)\cdot(2\cdot a\cdot b - (a + b))}}{a} = 0.00000$

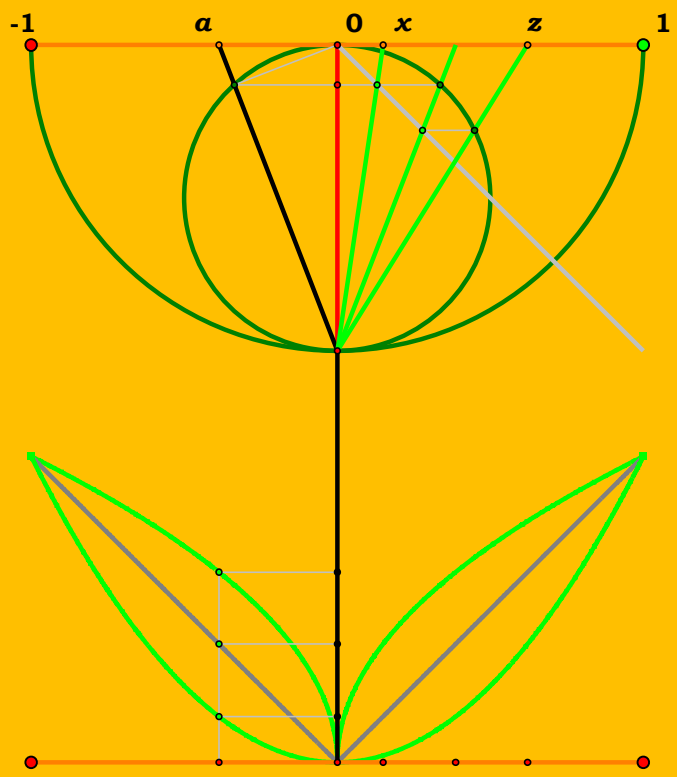
$c^2\cdot a^2 = 0.80444$

$(a - b)\cdot((2\cdot a\cdot b) - (a + b)) = 0.80444$

$(c^2\cdot a^2) - ((a - b)\cdot((2\cdot a\cdot b) - (a + b))) = 0.00000$

Logical Elements

The Flower of Life



$a = -0.38672$

$c = 0.14955$

$b = 0.38672$

$d = 0.62187$

$\frac{a}{\sqrt{c}} = -1.00000$

$\frac{a}{b} = -1.00000$

$\frac{a}{d^2} = -1.00000$

$\frac{\frac{a}{\sqrt{c}} + 1}{2} = 0.00000$ $\quad \frac{a + \sqrt{c}}{2 \cdot \sqrt{c}} = 0.00000$

$\frac{1 - \frac{a}{\sqrt{c}}}{2} = 1.00000$ $\quad \frac{\sqrt{c} - a}{2 \cdot \sqrt{c}} = 1.00000$

$\frac{\frac{a}{b} + 1}{2} = 0.00000$ $\quad \frac{a + b}{2 \cdot b} = 0.00000$

$\frac{1 - \frac{a}{b}}{2} = 1.00000$ $\quad \frac{b - a}{2 \cdot b} = 1.00000$

$\frac{\frac{a}{d^2} + 1}{2} = 0.00000$ $\quad \frac{a + d^2}{2 \cdot d^2} = 0.00000$

$\frac{1 - \frac{a}{d^2}}{2} = 1.00000$ $\quad \frac{d^2 - a}{2 \cdot d^2} = 1.00000$

Correlatives

$\frac{a}{b} = -1.00000$ **Left, right; Up, down; Cold, hot; Male, female; Good, evil, etc.**

$\frac{a + b}{2 \cdot b} = 0.00000$ **Assertion, denial, Yes, no, Noun, verb; etc.**

John Clark

Logic Log

John Clark

ab		a	b	b	a		ab

Addition

1	-2	0	0	2	$\frac{a\cdot\sqrt{b^2}+b\cdot\sqrt{a^2}}{\sqrt{a^2\cdot b^2}}=0.00000$
2	-1	0	1	2	$\frac{2\cdot a\cdot\sqrt{b^2}+b\cdot\sqrt{a^2}+\sqrt{a^2\cdot b^2}}{2\cdot\sqrt{a^2\cdot b^2}}=0.00000$
3	-2	-1	0	1	$\frac{2\cdot a\cdot\sqrt{b^2}+b\cdot\sqrt{a^2}-\sqrt{a^2\cdot b^2}}{2\cdot\sqrt{a^2\cdot b^2}}=-2.00000$
4	-1	1	0	2	$\frac{a\cdot\sqrt{b^2}+2\cdot b\cdot\sqrt{a^2}+\sqrt{a^2\cdot b^2}}{2\cdot\sqrt{a^2\cdot b^2}}=1.00000$
5	0	1	1	2	$\frac{a\cdot\sqrt{b^2}+b\cdot\sqrt{a^2}+2\cdot\sqrt{a^2\cdot b^2}}{2\cdot\sqrt{a^2\cdot b^2}}=1.00000$
6	-1	0	0	1	$\frac{a\cdot\sqrt{b^2}+b\cdot\sqrt{a^2}}{2\cdot\sqrt{a^2\cdot b^2}}=0.00000$
7	-2	0	-1	1	$\frac{a\cdot\sqrt{b^2}+2\cdot b\cdot\sqrt{a^2}-\sqrt{a^2\cdot b^2}}{2\cdot\sqrt{a^2\cdot b^2}}=0.00000$
8	-2	-1	-1	0	$\frac{a\cdot\sqrt{b^2}+b\cdot\sqrt{a^2}-2\cdot\sqrt{a^2\cdot b^2}}{2\cdot\sqrt{a^2\cdot b^2}}=0.00000$

ab		a	b	b	a		ab

Subtraction

1	0	-2	2	0	$\frac{a\cdot\sqrt{b^2}-b\cdot\sqrt{a^2}}{\sqrt{a^2\cdot b^2}}=0.00000$
2	-1	-2	1	0	$\frac{2\cdot a\cdot\sqrt{b^2}-b\cdot\sqrt{a^2}-\sqrt{a^2\cdot b^2}}{2\cdot\sqrt{a^2\cdot b^2}}=0.00000$
3	0	-1	2	1	$\frac{2\cdot a\cdot\sqrt{b^2}-b\cdot\sqrt{a^2}+\sqrt{a^2\cdot b^2}}{2\cdot\sqrt{a^2\cdot b^2}}=1.00000$
4	1	-1	2	0	$\frac{a\cdot\sqrt{b^2}-2\cdot b\cdot\sqrt{a^2}+\sqrt{a^2\cdot b^2}}{2\cdot\sqrt{a^2\cdot b^2}}=0.00000$
5	0	-1	1	0	$\frac{a\cdot\sqrt{b^2}-b\cdot\sqrt{a^2}}{2\cdot\sqrt{a^2\cdot b^2}}=0.00000$
6	1	0	2	1	$\frac{a\cdot\sqrt{b^2}-b\cdot\sqrt{a^2}+2\cdot\sqrt{a^2\cdot b^2}}{2\cdot\sqrt{a^2\cdot b^2}}=1.00000$
7	0	-2	1	-1	$\frac{a\cdot\sqrt{b^2}-2\cdot b\cdot\sqrt{a^2}-\sqrt{a^2\cdot b^2}}{2\cdot\sqrt{a^2\cdot b^2}}=-1.00000$
8	-1	-2	0	-1	$\frac{a\cdot\sqrt{b^2}-b\cdot\sqrt{a^2}-2\cdot\sqrt{a^2\cdot b^2}}{2\cdot\sqrt{a^2\cdot b^2}}=-1.00000$

ab		a	b	b	a		ab

Multiplication

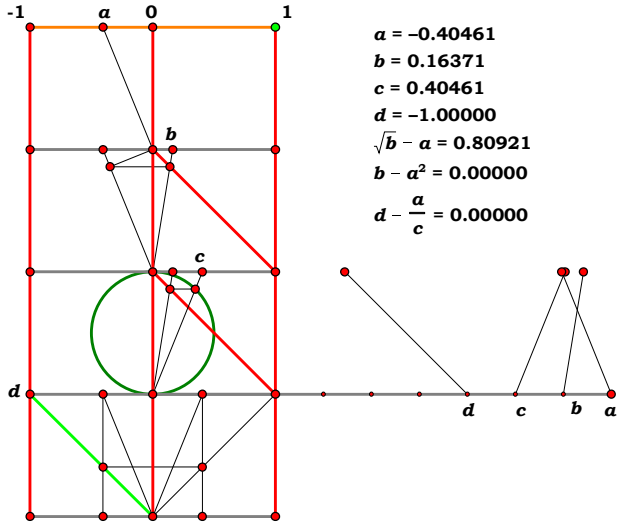
1	1	-1	-1	1	$\frac{a \cdot b}{\sqrt{a^2 \cdot b^2}} = -1.00000$
2	0	-1	0	1	$\frac{a \cdot (b + \sqrt{b^2})}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$
3	1	0	-1	0	$\frac{a \cdot (b - \sqrt{b^2})}{2 \cdot \sqrt{a^2 \cdot b^2}} = -1.00000$
4	0	0	-1	1	$\frac{b \cdot (a + \sqrt{a^2})}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$
5	0	0	0	1	$\frac{(a + \sqrt{a^2}) \cdot (b + \sqrt{b^2})}{4 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$
6	0	0	-1	0	$\frac{(a + \sqrt{a^2}) \cdot (b - \sqrt{b^2})}{4 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$
7	1	-1	0	0	$\frac{b \cdot (a - \sqrt{a^2})}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$
8	0	-1	0	0	$\frac{(a - \sqrt{a^2}) \cdot (b + \sqrt{b^2})}{4 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$
9	1	0	0	0	$\frac{(a - \sqrt{a^2}) \cdot (b - \sqrt{b^2})}{4 \cdot \sqrt{a^2 \cdot b^2}} = 1.00000$

ab		a	b	b	a		ab

Division

1	1	-1	-1	1	$\frac{a \cdot \sqrt{b^2}}{b \cdot \sqrt{a^2}} = 1.00000$
2	0	-1	0	1	$\frac{2 \cdot a \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b + \sqrt{b^2})} = -\infty$
3	1	0	-1	0	$\frac{2 \cdot a \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b - \sqrt{b^2})} = 1.00000$
4	0	0	-1	1	$\frac{(a + \sqrt{a^2}) \cdot \sqrt{b^2}}{2 \cdot b \cdot \sqrt{a^2}} = 0.00000$
5	0	0	0	1	$\frac{(a + \sqrt{a^2}) \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b + \sqrt{b^2})} = \infty$
6	0	0	-1	0	$\frac{(a + \sqrt{a^2}) \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b - \sqrt{b^2})} = -1.00000$
7	1	-1	0	0	$\frac{(a - \sqrt{a^2}) \cdot \sqrt{b^2}}{2 \cdot b \cdot \sqrt{a^2}} = 1.00000$
8	0	-1	0	0	$\frac{(a - \sqrt{a^2}) \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b + \sqrt{b^2})} = -\infty$
9	1	0	0	0	$\frac{(a - \sqrt{a^2}) \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b - \sqrt{b^2})} = 0.00000$

First Principle



The founder of Formal Grammar, was also the founder of Formal Logic, however, what he exampled has historically gone wholly ignored.

As Plato pointed out, a thing is comprised of a relative, called a verb, and correlatives called nouns. As Plato said, verbs are denoted by more and less, while nouns by assertion and denial, is or is not. During his life, Plato was working on geometry as a Meta-Grammar. He clearly understood that it could be done, however, he lived in a very primitive environment.

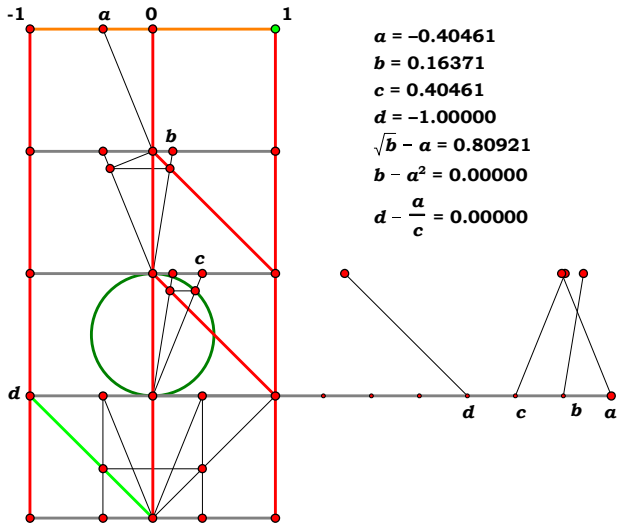
Although Plato gave us very good examples of logic in his dialogs, his readers, no matter how intelligent his readers flatter themselves to be, failed to comprehend what Plato saw, what he was demonstrating, which every computer now on the planet does, effect all information processing by simple binary recursion. Modern man mostly thinks of binary in terms of a single grammatical presentation of it as zero, and one's, 0, 1, and not as Plato did, relatives and correlatives, material and limits.

Thus, modern man actually believes that logic is achieved by renaming names, and wandering off into the banano-sphere, thinking that they are reinventing Language, using even the word language incorrectly. Language is Universal and Intelligible, it can never be, as Plato stated, perceptible. Grammar is Particular and Perceptible, and binary produces only four categories of grammar which has been with mankind during his evolution, Common Grammar, Arithmetic, Algebra and Geometry.

In view of this fact, we have a lot of catching up to do as Geometry is our Meta-Grammar. It processes in formation perfectly, and instantly, output is commensurate with the input, what is called a locus is actually memory which it can recall perfectly in order to render answers immediately.

This work then is to provide students material to learn from, for a time when we can reliably pair geometry to Common Grammar.

If you construct the plate, and move the point a, you will notice something that Plato tried to make clear in *Philebus*, a verb is recognized because it can be either more or less, i.e., it denotes relative differences, material differences, however, d is either one or the other, i.e., assertion and denial. It does not move at all, it is instantly one or the other, or again, it is used for assertion and denial.



So, as Plato noted, we start by being able to judge if two things are either equal or not equal, commonly denoted as 0 or 1. The class of words which denote this are called nouns. If two things are not equal, then one is greater than the other. So, if things can be greater or less, the greater and less denote verbs.

Wheat Reckoning

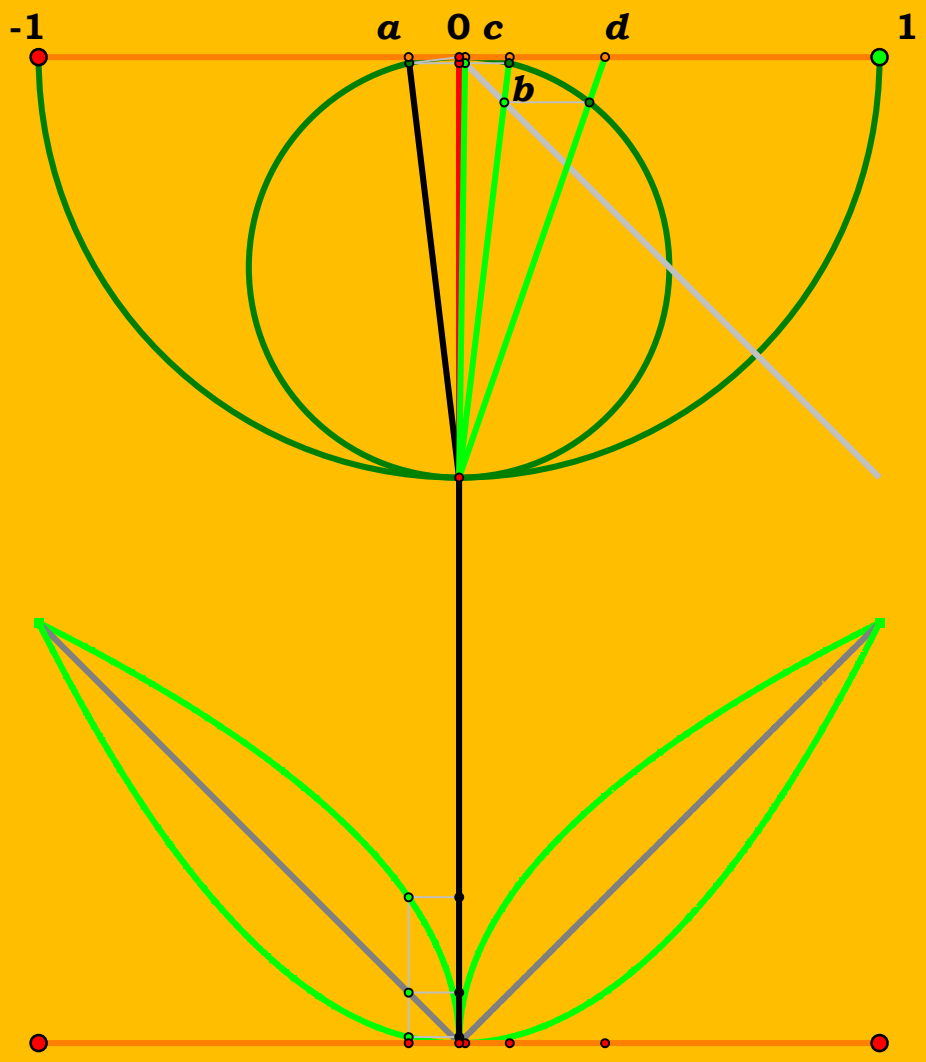
Produce each, *a*, *b*, *c*, and *d*, on a single line, as I have shown in the figure, which, with enough of them, look like stalks of grass moving in the wind. As one moves a, they notice that a, b, and c, are always denoting movement in accordance with an equation, i.e., each segment belongs to a class defined by an equation, even though, as lines, one cannot be distinguished one from the other. Each of them moves in accordance with its equation. One can then say, we can use each of these specific members of a class to denote the class of which it is a member, i.e., each equation can be named, *a*, *b*, *c*, or *d*. We can then use these simple lines anywhere in our matrix to do the math at that point, in other words, we can do the math with these stalks of wheat and thus show the logical structure and relationships by their connection in the figure. This is the preferred method of reckoning using the figure I call Jacob's latter. We add and subtract equations from the noun, or correlative of each line.

So, one can see, our Formal, or Meta-Grammar, Geometry, does both types of reckoning, without flattering ourselves that we need invent, in our own imagination, other languages or grammars, as I have repeatedly demonstrated in all my work.

If we now take two things, and compare them, effect mathematics on them, such as addition, subtraction, multiplication and division, we end up with 36 minus 2, figures, or 34, basic logical operators, and not just the simple two currently being repeated by many.

Introduction to Logic

The Flower of Life



Basic examples

$a = -0.12036$

$c = 0.01449$

$b = 0.12036$

$d = 0.34693$

1 $\frac{a}{\sqrt{c}} = -1.00000$

2 $\frac{a}{b} = -1.00000$

3 $\frac{a}{d^2} = -1.00000$

4 $\frac{a + \sqrt{c}}{2 \cdot \sqrt{c}} = 0.00000$

5 $\frac{\sqrt{c} - a}{2 \cdot \sqrt{c}} = 1.00000$

6 $\frac{a + b}{2 \cdot b} = 0.00000$

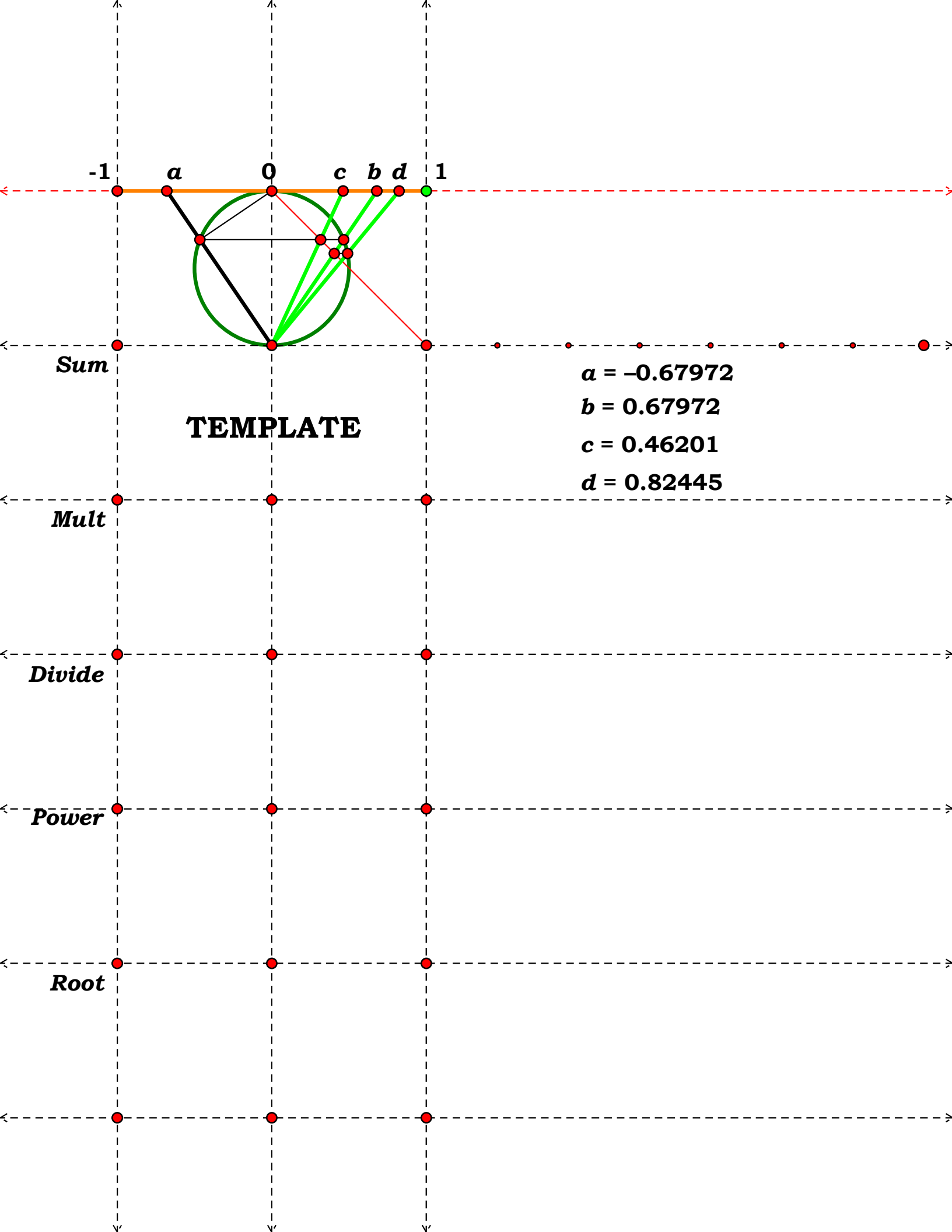
7 $\frac{b - a}{2 \cdot a} = -1.00000$

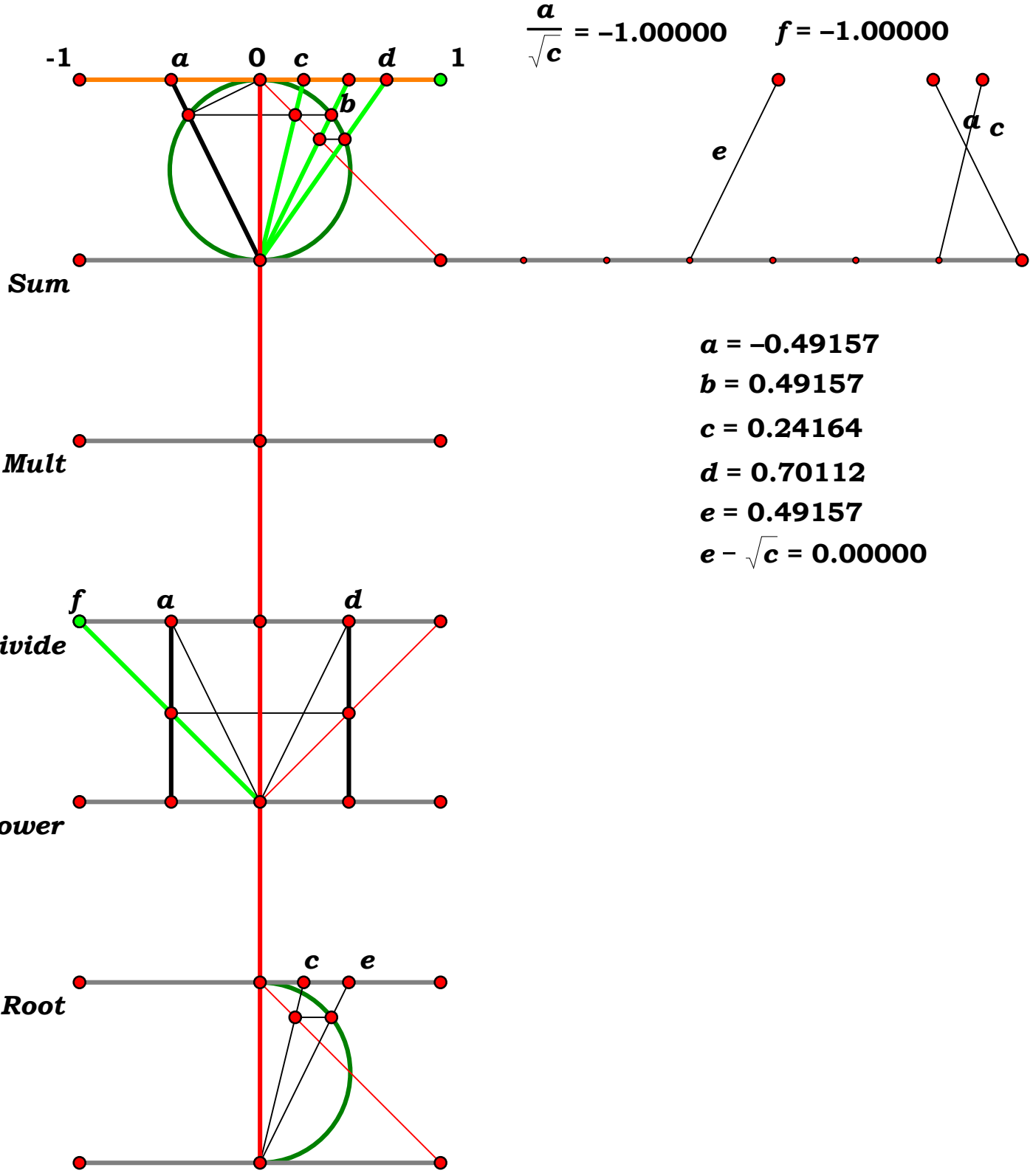
8 $\frac{b - a}{2 \cdot b} = 1.00000$

9 $\frac{a + d^2}{2 \cdot d^2} = 0.00000$

10 $\frac{d^2 - a}{2 \cdot a} = -1.00000$

11 $\frac{d^2 - a}{2 \cdot d^2} = 1.00000$


-1
a
0
c
b
d
1
Sum
TEMPLATE
a = –0.67972
b = 0.67972
c = 0.46201
d = 0.82445
Mult
Divide
Power
Root



$a = -0.49157$

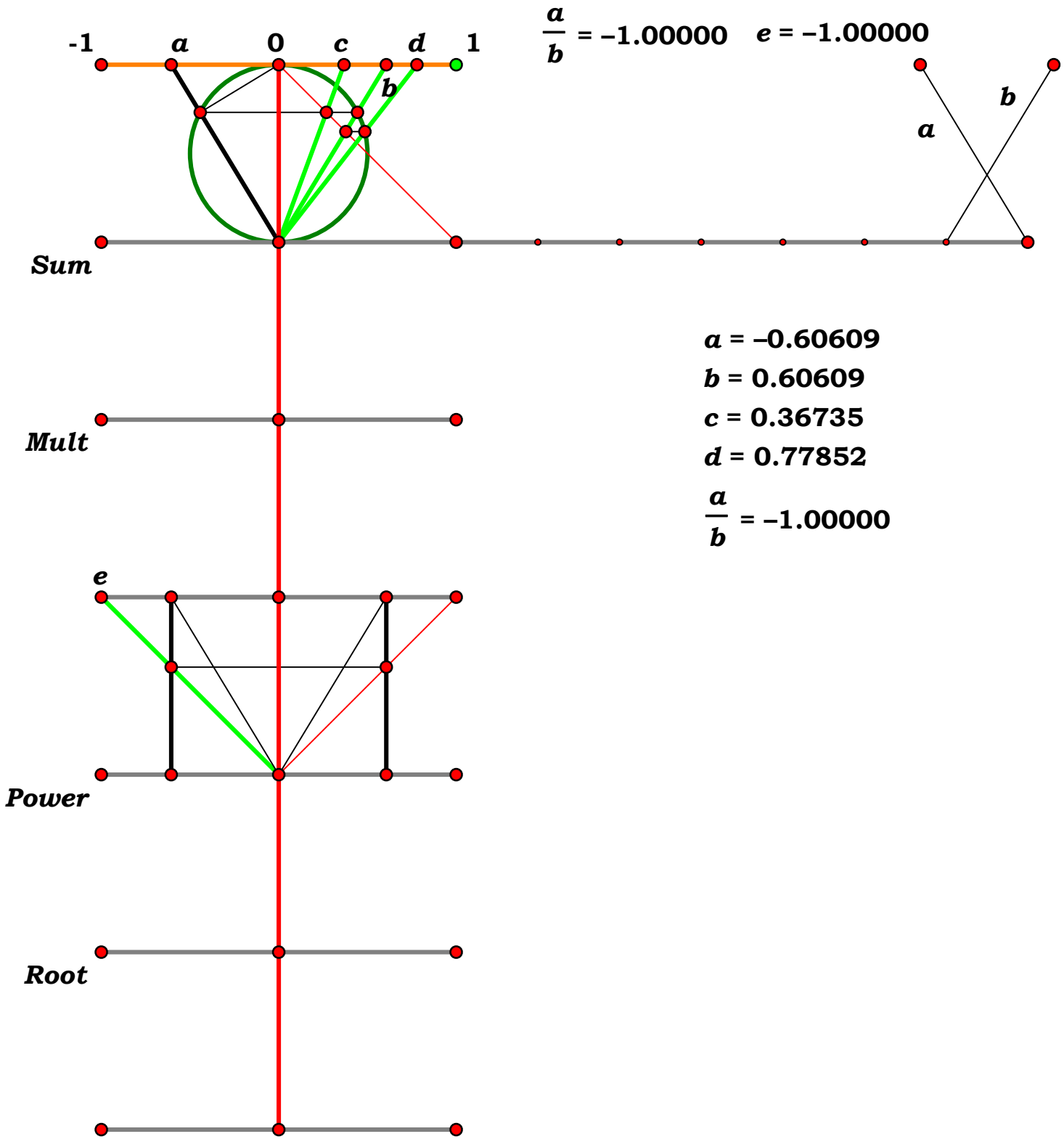
$b = 0.49157$

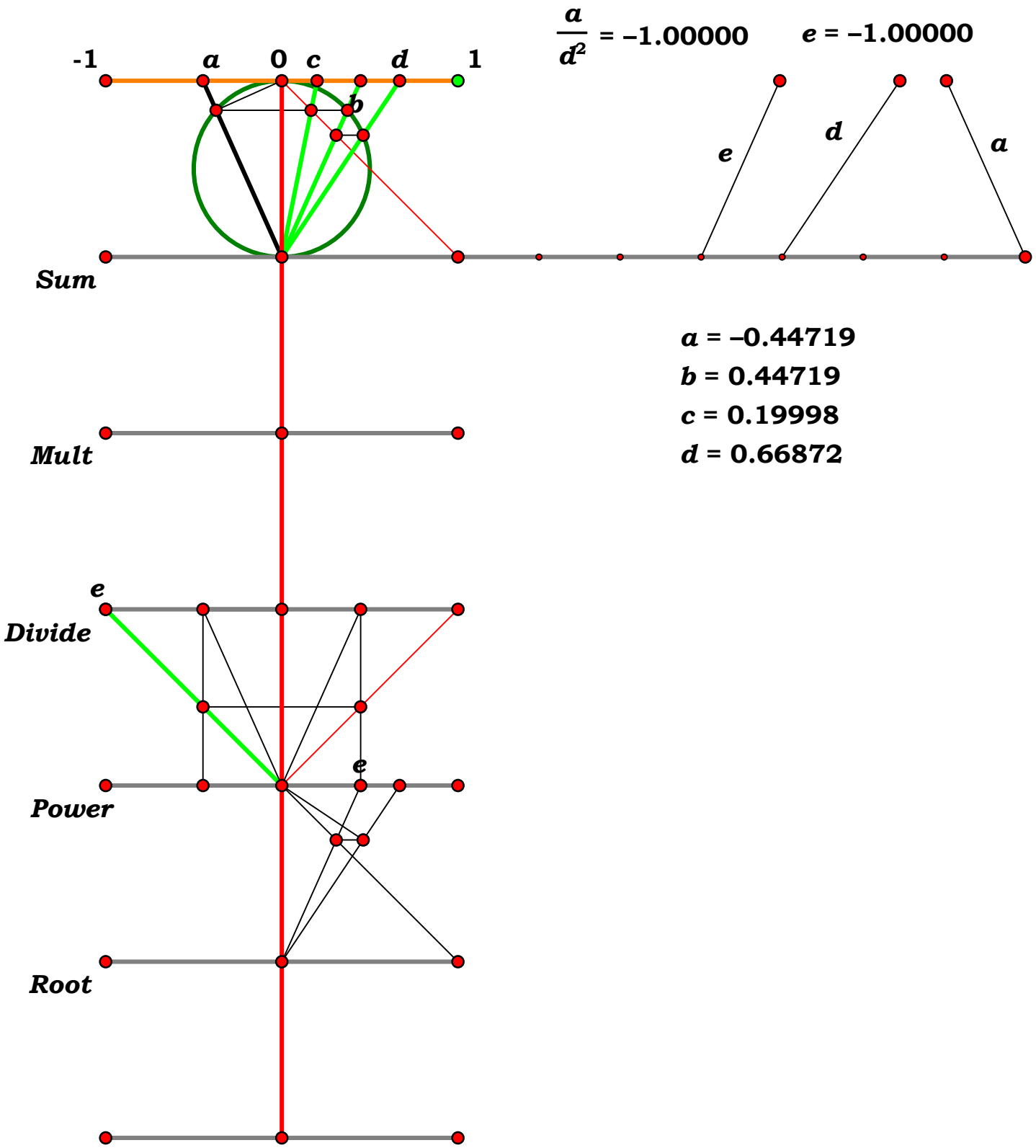
$c = 0.24164$

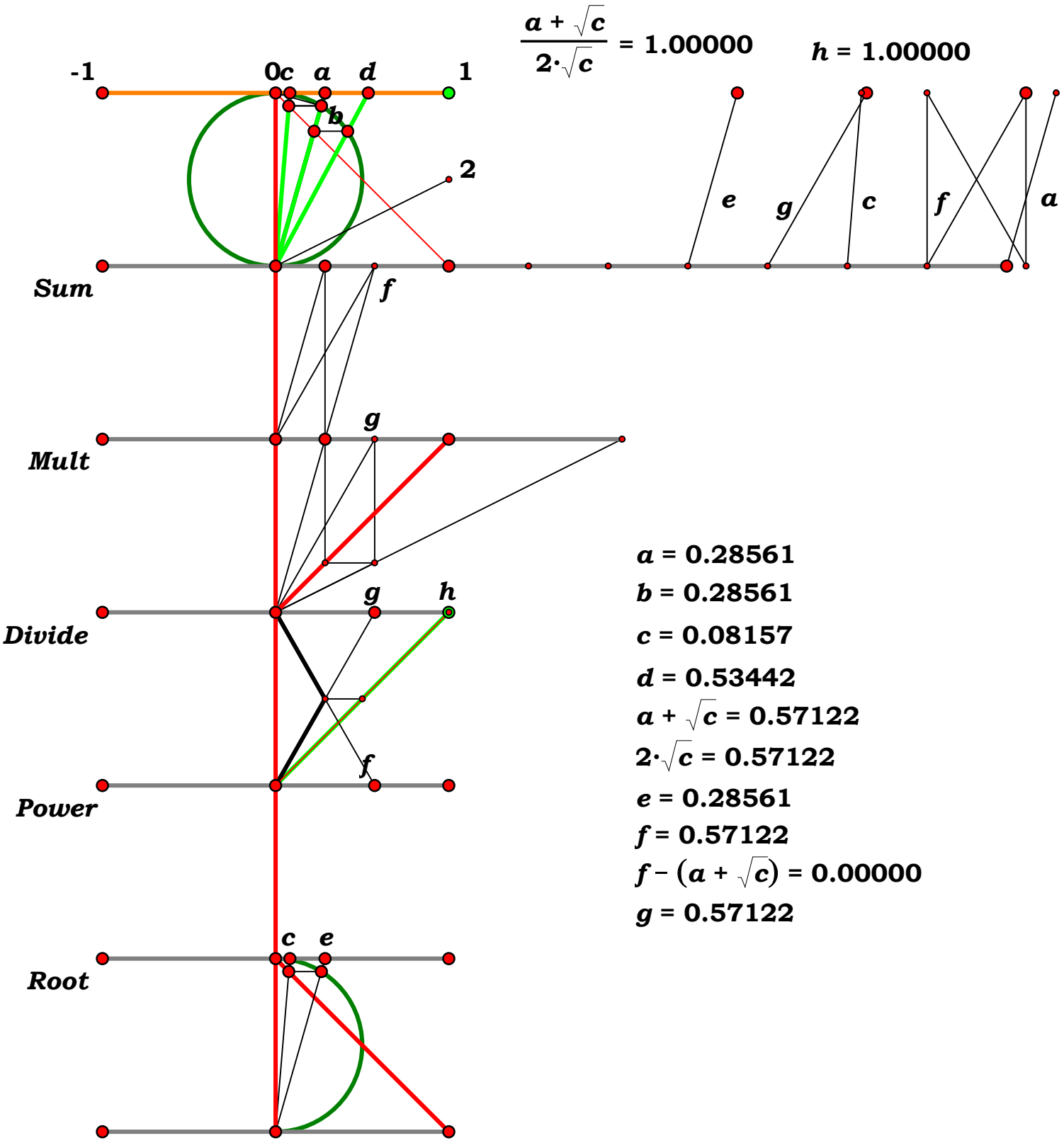
$d = 0.70112$

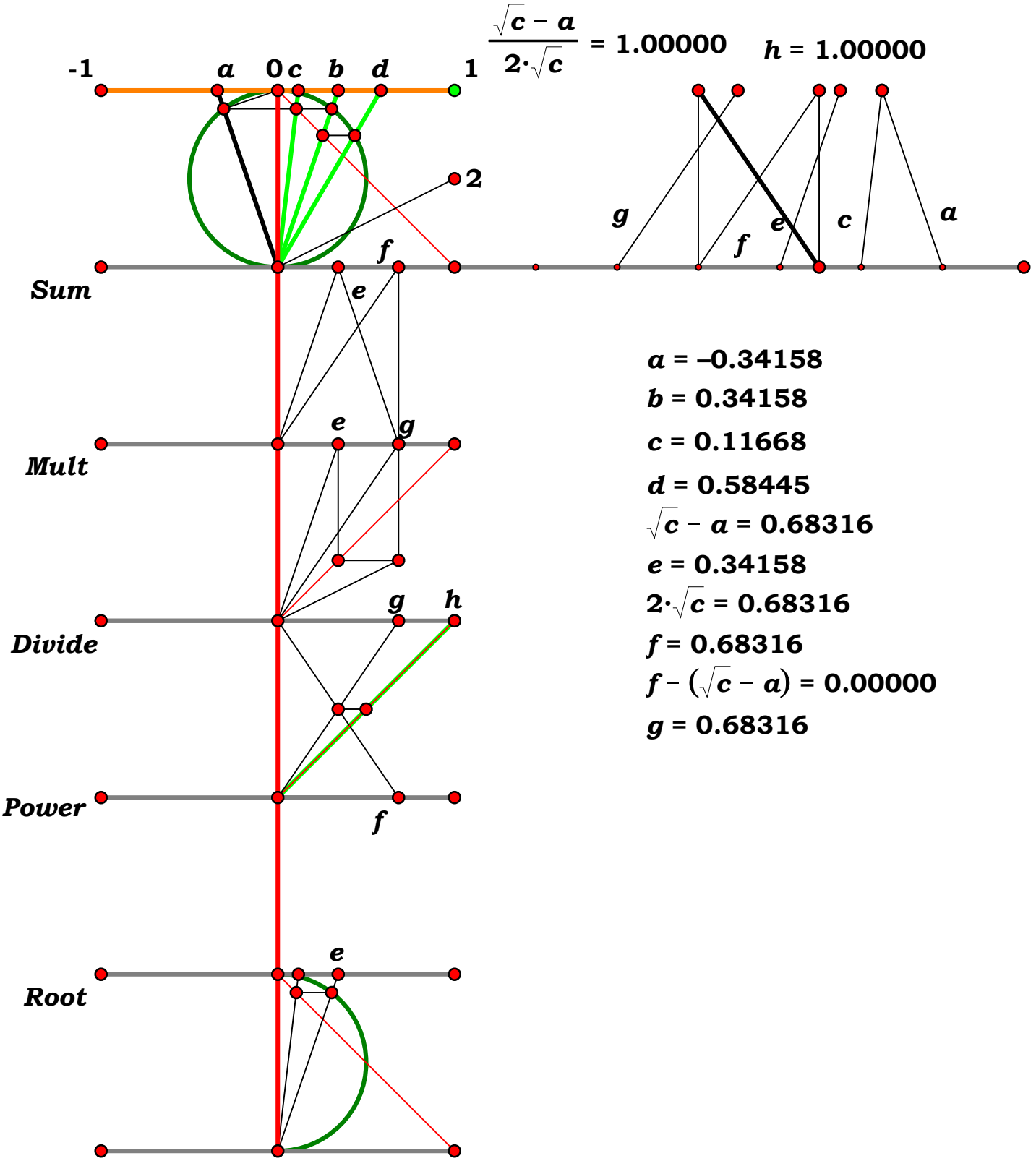
$e = 0.49157$

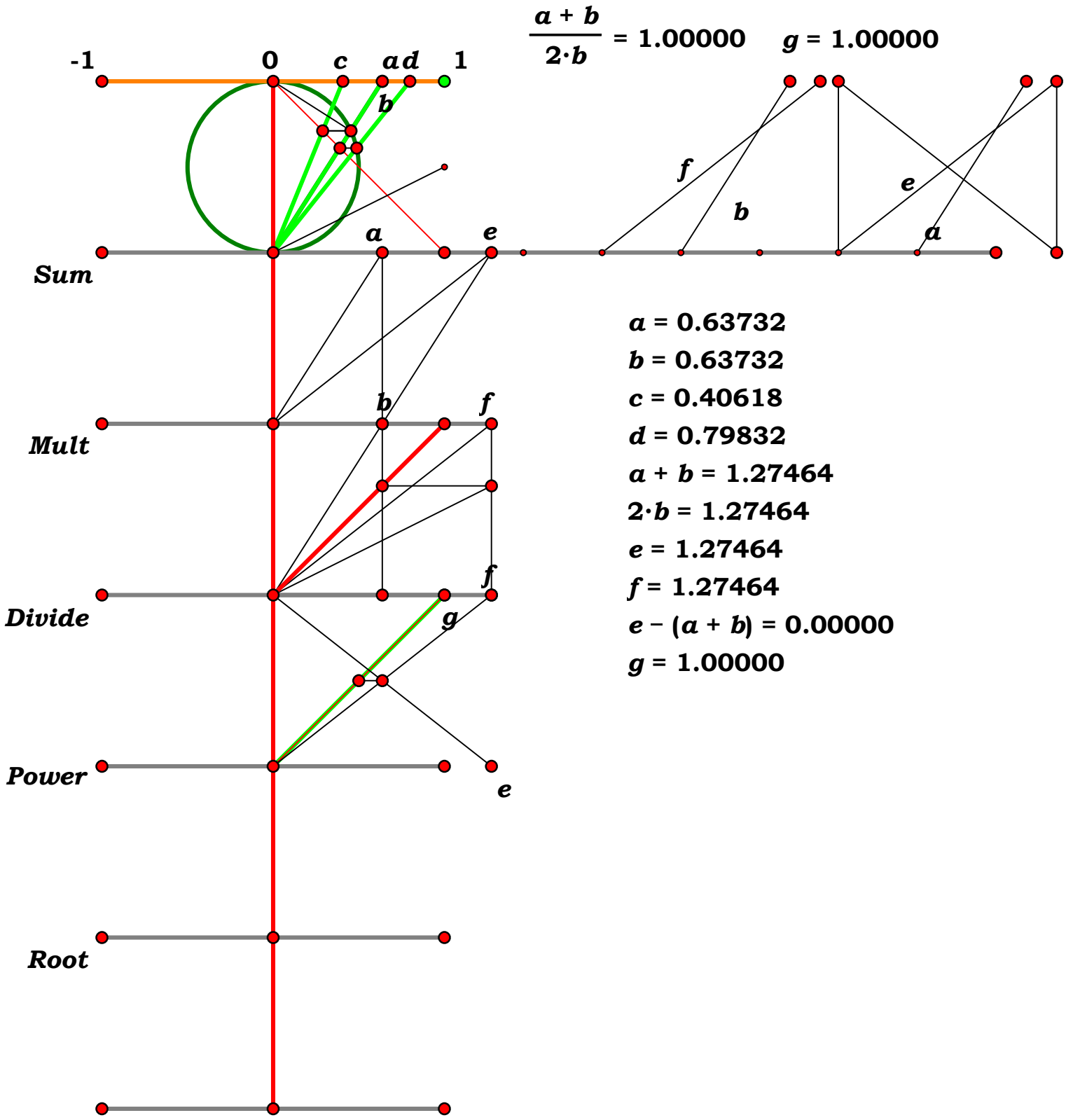
$e - \sqrt{c} = 0.00000$

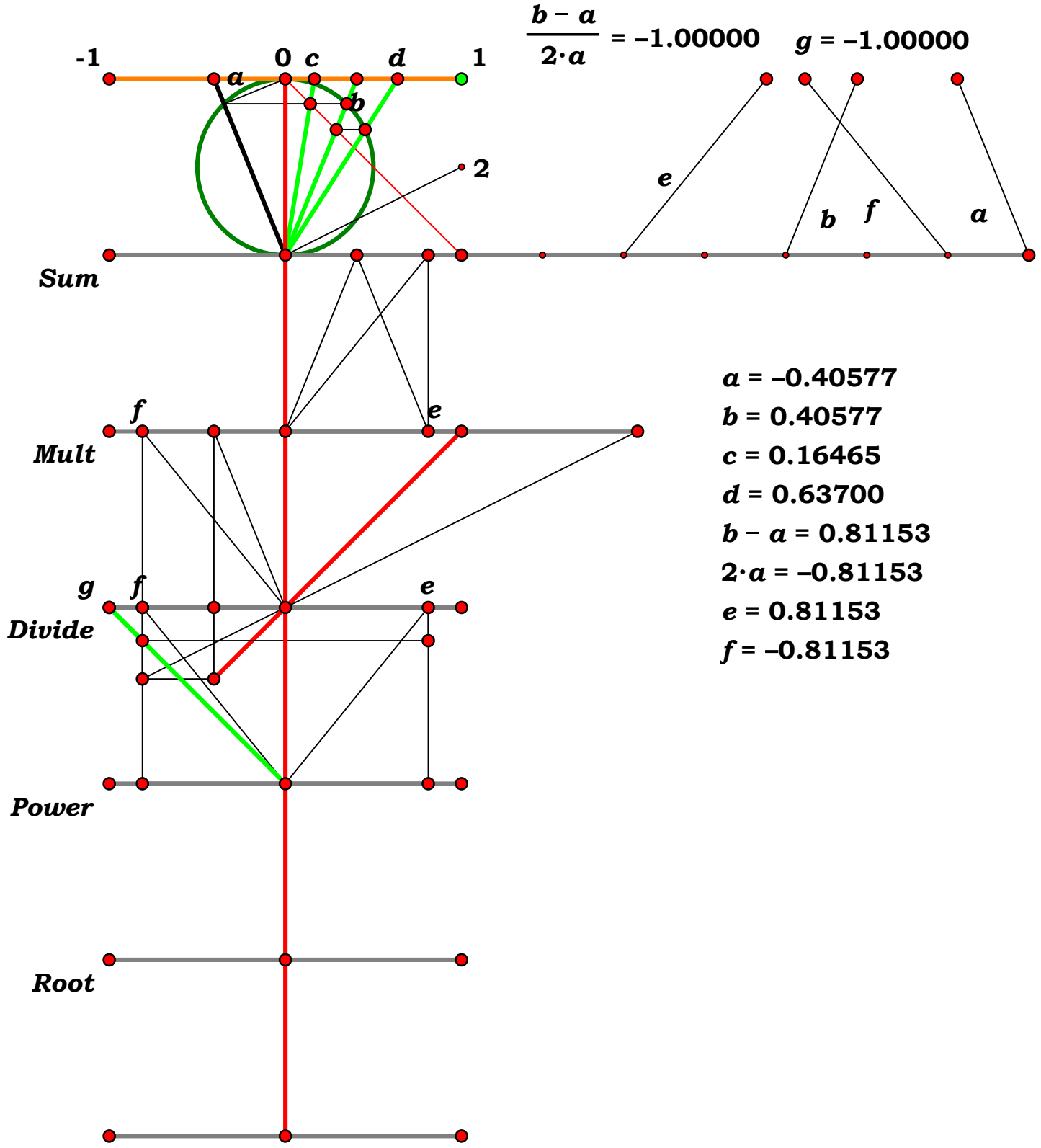

-1
a
0
c
d
1
b
a/b = –1.00000
e = –1.00000
b
a
Sum
Mult
Power
Root
e
a = –0.60609
b = 0.60609
c = 0.36735
d = 0.77852
a/b = –1.00000

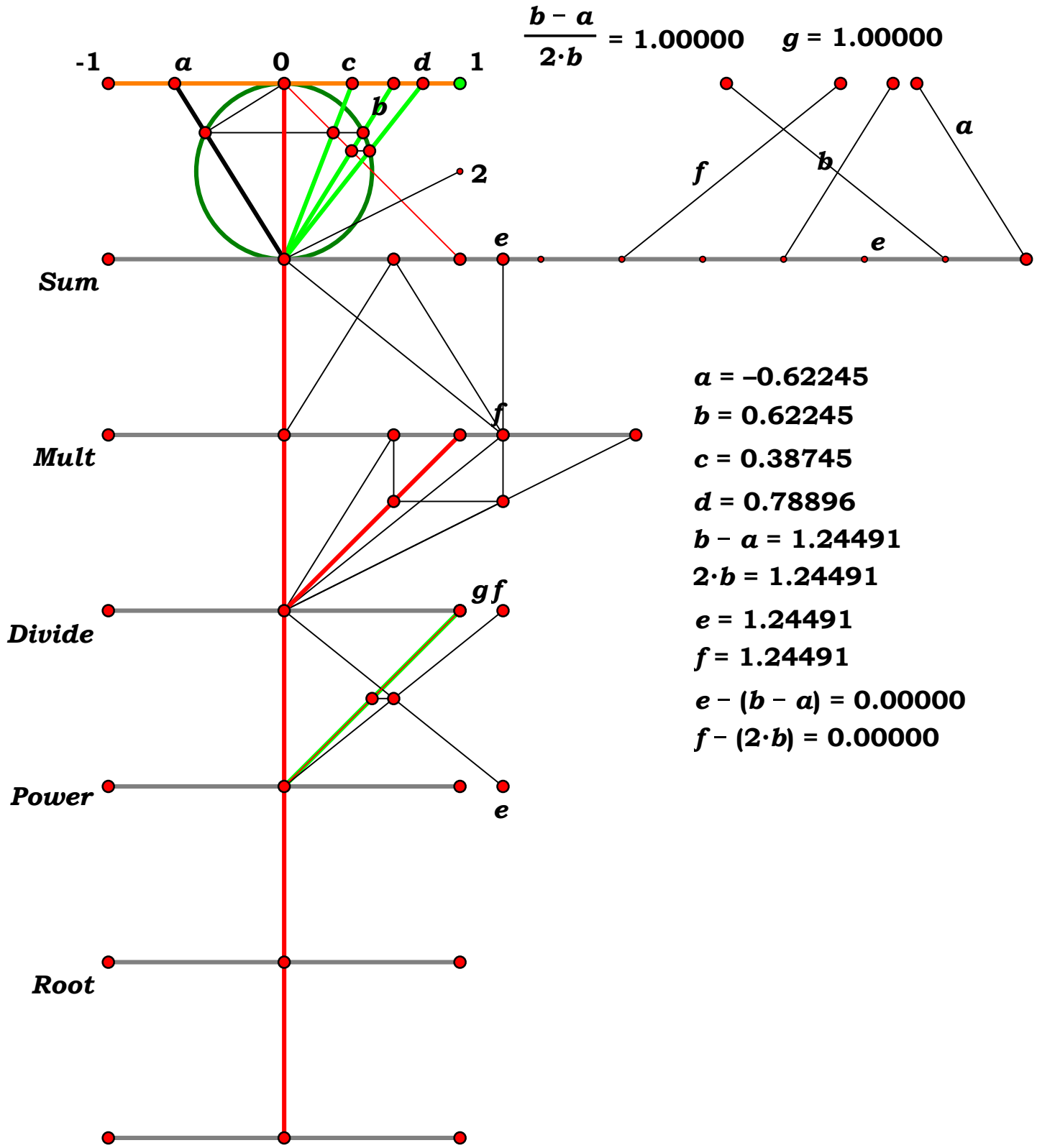

$\frac{a}{d^2}$ = –1.00000
e = –1.00000
-1
a
0
c
d
1
b
e
d
a
Sum
a = –0.44719
b = 0.44719
c = 0.19998
d = 0.66872
Mult
e
Divide
e
Power
Root

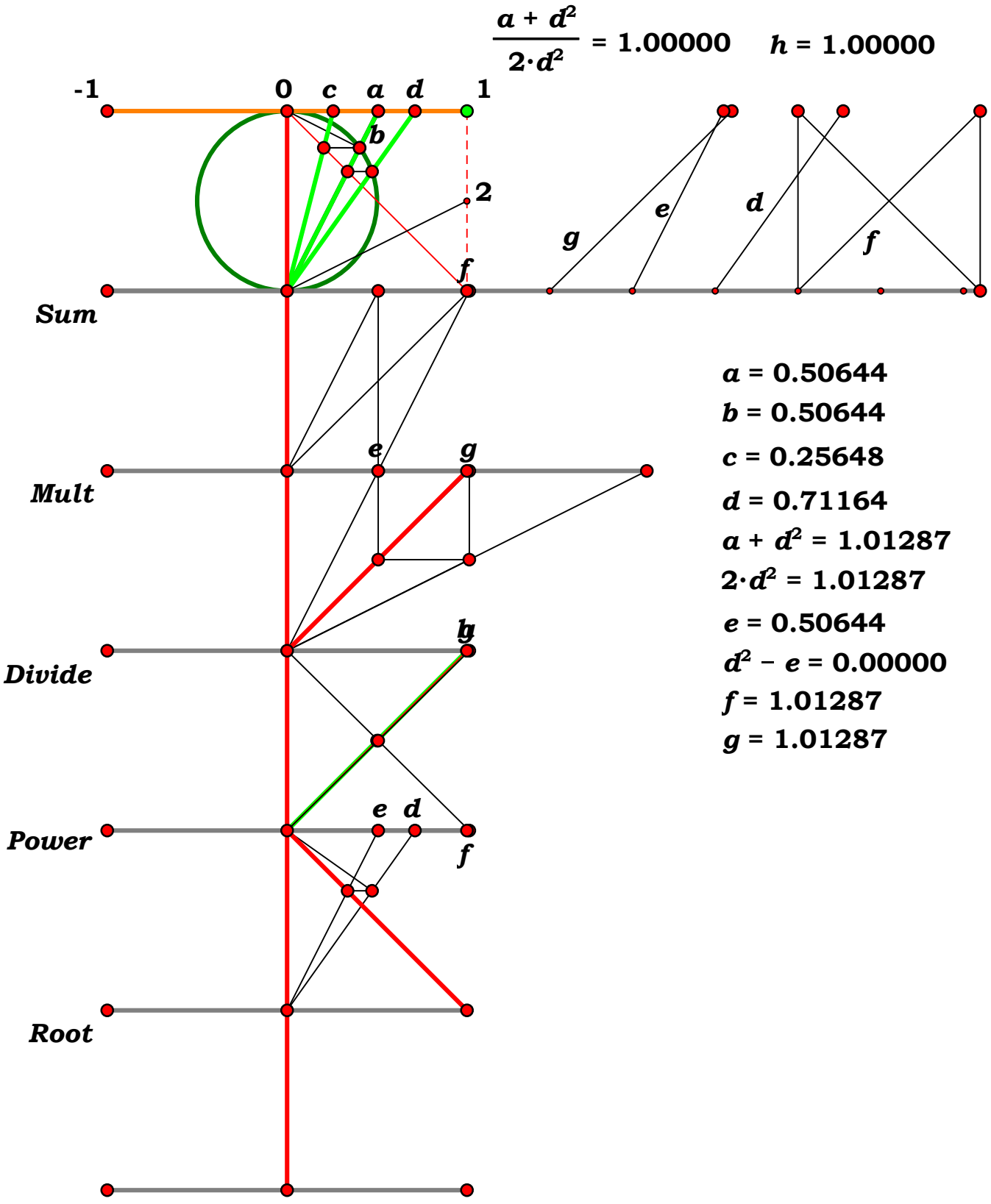

$\frac{a+\sqrt{c}}{2\cdot\sqrt{c}} = 1.00000$
$h = 1.00000$
-1
0c
a
d
1
b
2
e
g
c
f
a
Sum
f
g
Mult
g
h
Divide
f
Power
c
e
Root
$a = 0.28561$
$b = 0.28561$
$c = 0.08157$
$d = 0.53442$
$a + \sqrt{c} = 0.57122$
$2\cdot\sqrt{c} = 0.57122$
$e = 0.28561$
$f = 0.57122$
$f - (a + \sqrt{c}) = 0.00000$
$g = 0.57122$

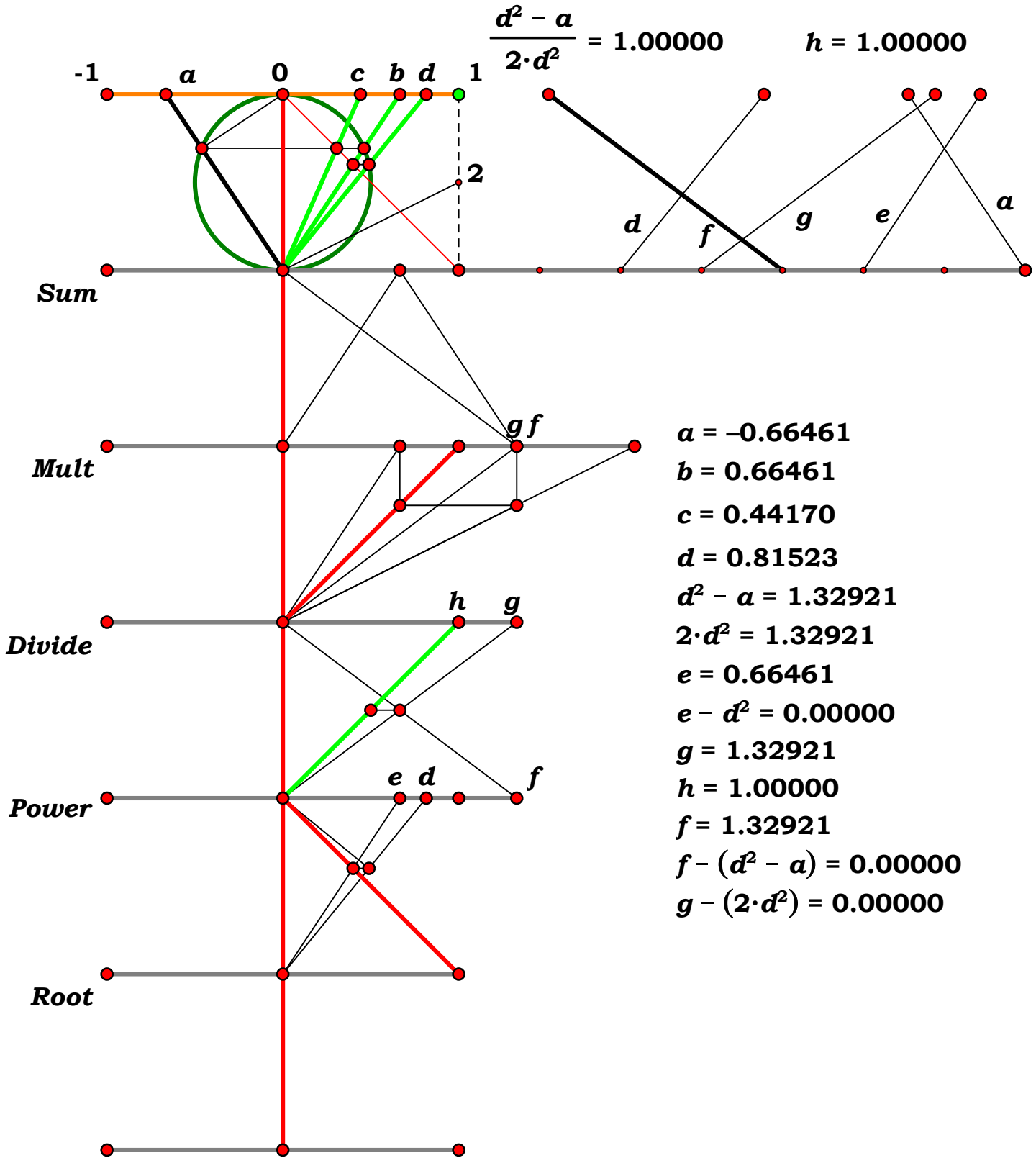

$\frac{\sqrt{c} - a}{2 \cdot \sqrt{c}} = 1.00000$
$h = 1.00000$
-1
a
0
c
b
d
1
2
f
Sum
e
e
g
Mult
g
h
Divide
f
Power
e
Root
g
f
e
c
a
$a = -0.34158$
$b = 0.34158$
$c = 0.11668$
$d = 0.58445$
$\sqrt{c} - a = 0.68316$
$e = 0.34158$
$2 \cdot \sqrt{c} = 0.68316$
$f = 0.68316$
$f - (\sqrt{c} - a) = 0.00000$
$g = 0.68316$

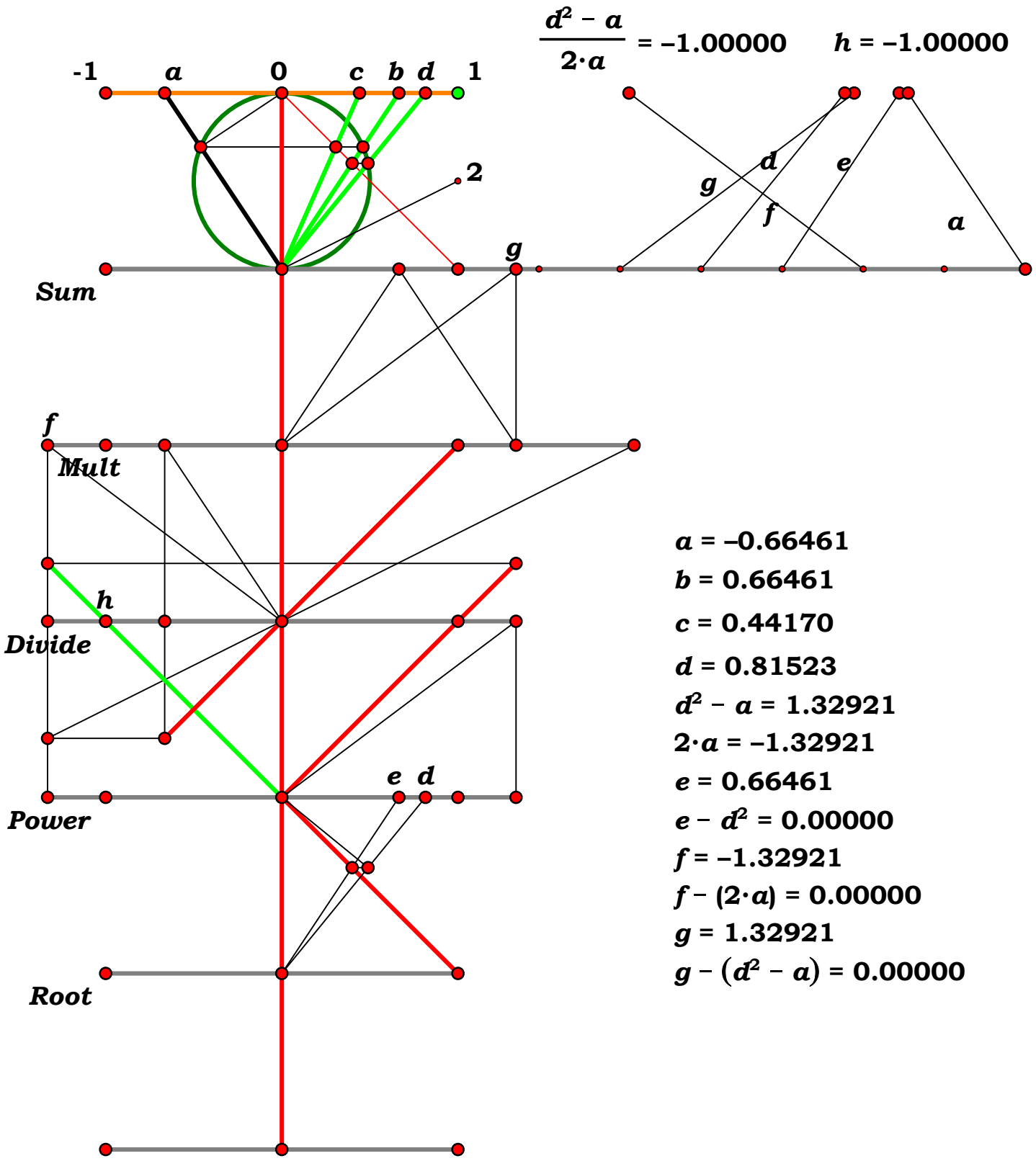

$\frac{a+b}{2 \cdot b}$ = 1.00000
g = 1.00000
-1
0
c
a d
1
b
a
e
Sum
f
b
e
a
b
f
Mult
f
g
Divide
Power
e
Root
a = 0.63732
b = 0.63732
c = 0.40618
d = 0.79832
a + b = 1.27464
2·b = 1.27464
e = 1.27464
f = 1.27464
e − (a + b) = 0.00000
g = 1.00000


$\frac{b-a}{2\cdot a} = -1.00000$
$g = -1.00000$
-1
0
c
d
1
a
b
2
e
b
f
a
Sum
f
e
Mult
g
f
e
Divide
Power
Root
$a = -0.40577$
$b = 0.40577$
$c = 0.16465$
$d = 0.63700$
$b - a = 0.81153$
$2\cdot a = -0.81153$
$e = 0.81153$
$f = -0.81153$


$\frac{b-a}{2\cdot b} = 1.00000$
$g = 1.00000$
-1
a
0
c
d
1
b
2
e
Sum
f
Mult
g f
Divide
Power
e
Root
a
b
f
e
$a = -0.62245$
$b = 0.62245$
$c = 0.38745$
$d = 0.78896$
$b - a = 1.24491$
$2\cdot b = 1.24491$
$e = 1.24491$
$f = 1.24491$
$e - (b - a) = 0.00000$
$f - (2\cdot b) = 0.00000$


$\frac{a + d^2}{2 \cdot d^2} = 1.00000$
$h = 1.00000$
-1
0
c
a
d
1
b
2
f
g
e
d
f
Sum
Mult
Divide
Power
Root
e
g
e
d
f
$a = 0.50644$
$b = 0.50644$
$c = 0.25648$
$d = 0.71164$
$a + d^2 = 1.01287$
$2 \cdot d^2 = 1.01287$
$e = 0.50644$
$d^2 - e = 0.00000$
$f = 1.01287$
$g = 1.01287$


$\frac{d^2 - a}{2 \cdot d^2} = 1.00000$
$h = 1.00000$
-1
a
0
c
b
d
1
2
d
f
g
e
a
Sum
g f
Mult
h
g
Divide
e
d
f
Power
Root
$a = -0.66461$
$b = 0.66461$
$c = 0.44170$
$d = 0.81523$
$d^2 - a = 1.32921$
$2 \cdot d^2 = 1.32921$
$e = 0.66461$
$e - d^2 = 0.00000$
$g = 1.32921$
$h = 1.00000$
$f = 1.32921$
$f - (d^2 - a) = 0.00000$
$g - (2 \cdot d^2) = 0.00000$



$a = -0.66461$

$b = 0.66461$

$c = 0.44170$

$d = 0.81523$

$d^2 - a = 1.32921$

$2 \cdot a = -1.32921$

$e = 0.66461$

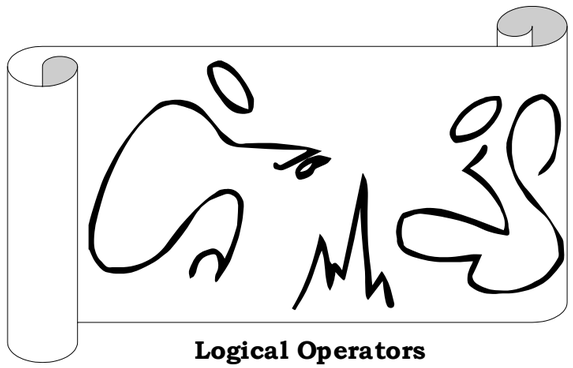
$e - d^2 = 0.00000$

$f = -1.32921$

$f - (2 \cdot a) = 0.00000$

$g = 1.32921$

$g - (d^2 - a) = 0.00000$



Logical Operators

Given.

$a := .6$

$b := -.4$

Descriptions.

$\frac{a}{\sqrt{a^2}} = 1$ $\quad \frac{a+\sqrt{a^2}}{2\cdot\sqrt{a^2}} = 1$ $\quad \frac{a-\sqrt{a^2}}{2\cdot\sqrt{a^2}} = 0$

$\frac{b}{\sqrt{b^2}} = -1$ $\quad \frac{b+\sqrt{b^2}}{2\cdot\sqrt{b^2}} = 0$ $\quad \frac{b-\sqrt{b^2}}{2\cdot\sqrt{b^2}} = -1$

Results are $N^x \cdot 4$

$\sqrt{a^2\cdot b^2}$

Addition $a+b = 0.2$

$\frac{a\cdot\sqrt{b^2}+b\cdot\sqrt{a^2}}{\sqrt{a^2}\cdot\sqrt{b^2}} = 0$ $\quad \frac{\sqrt{a^2\cdot b^2}+2\cdot a\cdot\sqrt{b^2}+b\cdot\sqrt{a^2}}{2\cdot\sqrt{a^2\cdot b^2}} = 1$ $\quad \frac{2\cdot a\cdot\sqrt{b^2}-\sqrt{a^2\cdot b^2}+b\cdot\sqrt{a^2}}{2\cdot\sqrt{a^2\cdot b^2}} = 0$

$\frac{\sqrt{a^2\cdot b^2}+a\cdot\sqrt{b^2}+2\cdot b\cdot\sqrt{a^2}}{2\cdot\sqrt{a^2\cdot b^2}} = 0$ $\quad \frac{2\cdot\sqrt{a^2\cdot b^2}+a\cdot\sqrt{b^2}+b\cdot\sqrt{a^2}}{2\cdot\sqrt{a^2\cdot b^2}} = 1$ $\quad \frac{a\cdot\sqrt{b^2}+b\cdot\sqrt{a^2}}{2\cdot\sqrt{a^2\cdot b^2}} = 0$

$\frac{a\cdot\sqrt{b^2}-\sqrt{a^2\cdot b^2}+2\cdot b\cdot\sqrt{a^2}}{2\cdot\sqrt{a^2\cdot b^2}} = -1$ $\quad \frac{a\cdot\sqrt{b^2}-2\cdot\sqrt{a^2\cdot b^2}+b\cdot\sqrt{a^2}}{2\cdot\sqrt{a^2\cdot b^2}} = -1$

Subtraction $a-b = 1$

$\frac{a\cdot\sqrt{b^2}-b\cdot\sqrt{a^2}}{\sqrt{a^2\cdot b^2}} = 2$ $\quad \frac{2\cdot a\cdot\sqrt{b^2}-\sqrt{a^2\cdot b^2}-b\cdot\sqrt{a^2}}{2\cdot\sqrt{a^2\cdot b^2}} = 1$ $\quad \frac{\sqrt{a^2\cdot b^2}+2\cdot a\cdot\sqrt{b^2}-b\cdot\sqrt{a^2}}{2\cdot\sqrt{a^2\cdot b^2}} = 2$

$\frac{\sqrt{a^2\cdot b^2}+a\cdot\sqrt{b^2}-2\cdot b\cdot\sqrt{a^2}}{2\cdot\sqrt{a^2\cdot b^2}} = 2$ $\quad \frac{a\cdot\sqrt{b^2}-b\cdot\sqrt{a^2}}{2\cdot\sqrt{a^2\cdot b^2}} = 1$ $\quad \frac{2\cdot\sqrt{a^2\cdot b^2}+a\cdot\sqrt{b^2}-b\cdot\sqrt{a^2}}{2\cdot\sqrt{a^2\cdot b^2}} = 2$

$\frac{a\cdot\sqrt{b^2}-\sqrt{a^2\cdot b^2}-2\cdot b\cdot\sqrt{a^2}}{2\cdot\sqrt{a^2\cdot b^2}} = 1$ $\quad \frac{a\cdot\sqrt{b^2}-2\cdot\sqrt{a^2\cdot b^2}-b\cdot\sqrt{a^2}}{2\cdot\sqrt{a^2\cdot b^2}} = 0$

Multiplication $a\cdot b = -0.24$

$\frac{a\cdot b}{\sqrt{a^2\cdot b^2}} = -1$ $\quad \frac{a\cdot\left(b+\sqrt{b^2}\right)}{2\cdot\sqrt{a^2\cdot b^2}} = 0$ $\quad \frac{a\cdot\left(b-\sqrt{b^2}\right)}{2\cdot\sqrt{a^2\cdot b^2}} = -1$

$\frac{b\cdot\left(a+\sqrt{a^2}\right)}{2\cdot\sqrt{a^2\cdot b^2}} = -1$ $\quad \frac{\left(a+\sqrt{a^2}\right)\cdot\left(b+\sqrt{b^2}\right)}{4\cdot\sqrt{a^2\cdot b^2}} = 0$ $\quad \frac{\left(b-\sqrt{b^2}\right)\cdot\left(a+\sqrt{a^2}\right)}{4\cdot\sqrt{a^2\cdot b^2}} = -1$

$\frac{b\cdot\left(a-\sqrt{a^2}\right)}{2\cdot\sqrt{a^2\cdot b^2}} = 0$ $\quad \frac{\left(a-\sqrt{a^2}\right)\cdot\left(b+\sqrt{b^2}\right)}{4\cdot\sqrt{a^2\cdot b^2}} = 0$ $\quad \frac{\left(a-\sqrt{a^2}\right)\cdot\left(b-\sqrt{b^2}\right)}{4\cdot\sqrt{a^2\cdot b^2}} = 0$

Division $\frac{a}{b} = -1.5$

$\frac{a\cdot\sqrt{b^2}}{b\cdot\sqrt{a^2}} = -1$ $\quad \frac{2\cdot a\cdot\sqrt{b^2}}{\sqrt{a^2}\cdot\left(b+\sqrt{b^2}\right)} = \blacksquare$ $\quad \frac{2\cdot a\cdot\sqrt{b^2}}{\left(b-\sqrt{b^2}\right)\cdot\sqrt{a^2}} = -1$

$\frac{\sqrt{b^2}\cdot\left(a+\sqrt{a^2}\right)}{2\cdot b\cdot\sqrt{a^2}} = -1$ $\quad \frac{\sqrt{b^2}\cdot\left(a+\sqrt{a^2}\right)}{\sqrt{a^2}\cdot\left(b+\sqrt{b^2}\right)} = \blacksquare$ $\quad \frac{\sqrt{b^2}\cdot\left(a+\sqrt{a^2}\right)}{\left(b-\sqrt{b^2}\right)\cdot\sqrt{a^2}} = -1$

$\frac{\left(a-\sqrt{a^2}\right)\cdot\sqrt{b^2}}{2\cdot b\cdot\sqrt{a^2}} = 0$ $\quad \frac{\left(a-\sqrt{a^2}\right)\cdot\sqrt{b^2}}{\sqrt{a^2}\cdot\left(b+\sqrt{b^2}\right)} = \blacksquare$ $\quad \frac{\left(a-\sqrt{a^2}\right)\cdot\sqrt{b^2}}{\left(b-\sqrt{b^2}\right)\cdot\sqrt{a^2}} = 0$

$a = -0.49042$

$b = -0.68489$

$c = 0.24051$

$a^2 - c = 0.00000$

$d = 0.49042$

$\frac{a}{d} = -1.00000$

$e = 0.46907$

$b^2 - e = 0.00000$

$f = 0.68489$

$\frac{b}{f} = -1.00000$

$g = 0.33588$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.67177$

$h - 2 \cdot g = 0.00000$

$j = -0.33588$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.67177$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.33588$

$m = -0.33588$

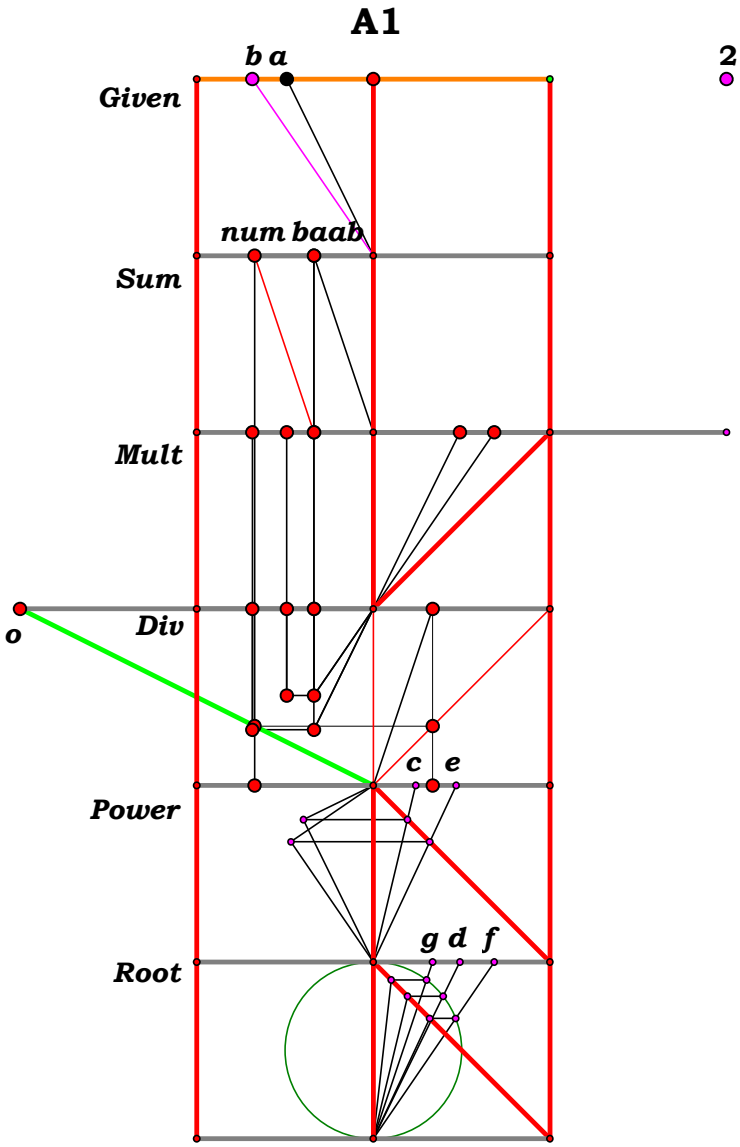
$n = -0.67177$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -2.00000$

$o - \frac{a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2}}{\sqrt{a^2 \cdot b^2}} = 0.00000$



$\frac{a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2}}{\sqrt{a^2 \cdot b^2}} = -2.00000$

$a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2} = -0.67177$

$\sqrt{a^2 \cdot b^2} = 0.33588$

$a = 0.41912$

$b = 0.70150$

$c = 0.17566$

$a^2 - c = 0.00000$

$d = 0.41912$

$\frac{a}{d} = 1.00000$

$e = 0.49210$

$b^2 - e = 0.00000$

$f = 0.70150$

$\frac{b}{f} = 1.00000$

$g = 0.29401$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.58802$

$h - 2 \cdot g = 0.00000$

$j = 0.29401$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = 0.58802$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = 0.29401$

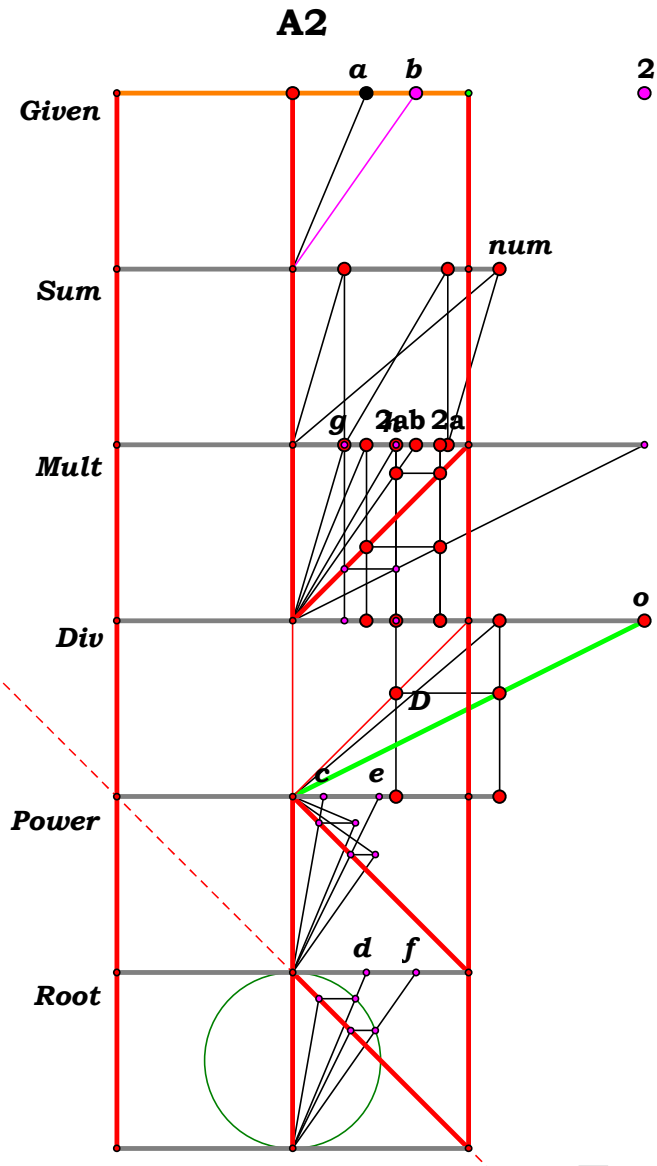
$m = 0.29401$

$n = 0.58802$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = 2.00000$



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$$\frac{2 \cdot a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2} + \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 2.00000$$

$2 \cdot a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2} + \sqrt{a^2 \cdot b^2} = 1.17605$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.58802$

$a = -0.32264$

$b = -0.58497$

$c = 0.10410$

$a^2 - c = 0.00000$

$d = 0.32264$

$\frac{a}{d} = -1.00000$

$e = 0.34219$

$b^2 - e = 0.00000$

$f = 0.58497$

$\frac{b}{f} = -1.00000$

$g = 0.18873$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.37747$

$h - 2 \cdot g = 0.00000$

$j = -0.18873$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.37747$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.18873$

$m = -0.18873$

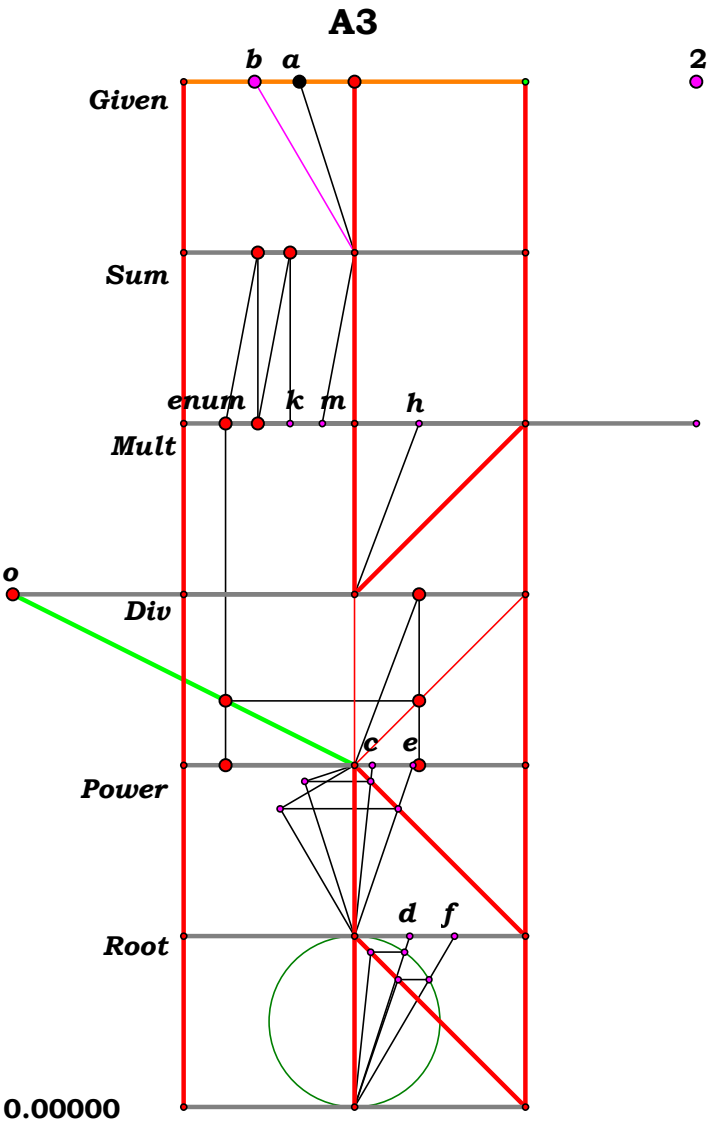
$n = -0.37747$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -2.00000$

$$o - \frac{2 \cdot a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2} - \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$$



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$$\frac{2 \cdot a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2} - \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = -2.00000$$

$2 \cdot a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2} - \sqrt{a^2 \cdot b^2} = -0.75493$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.37747$

$a = 0.28473$

$b = 0.63968$

$c = 0.08107$

$a^2 - c = 0.00000$

$d = 0.28473$

$\frac{a}{d} = 1.00000$

$e = 0.40919$

$b^2 - e = 0.00000$

$f = 0.63968$

$\frac{b}{f} = 1.00000$

$g = 0.18214$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.36427$

$h - 2 \cdot g = 0.00000$

$j = 0.18214$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = 0.36427$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = 0.18214$

$m = 0.18214$

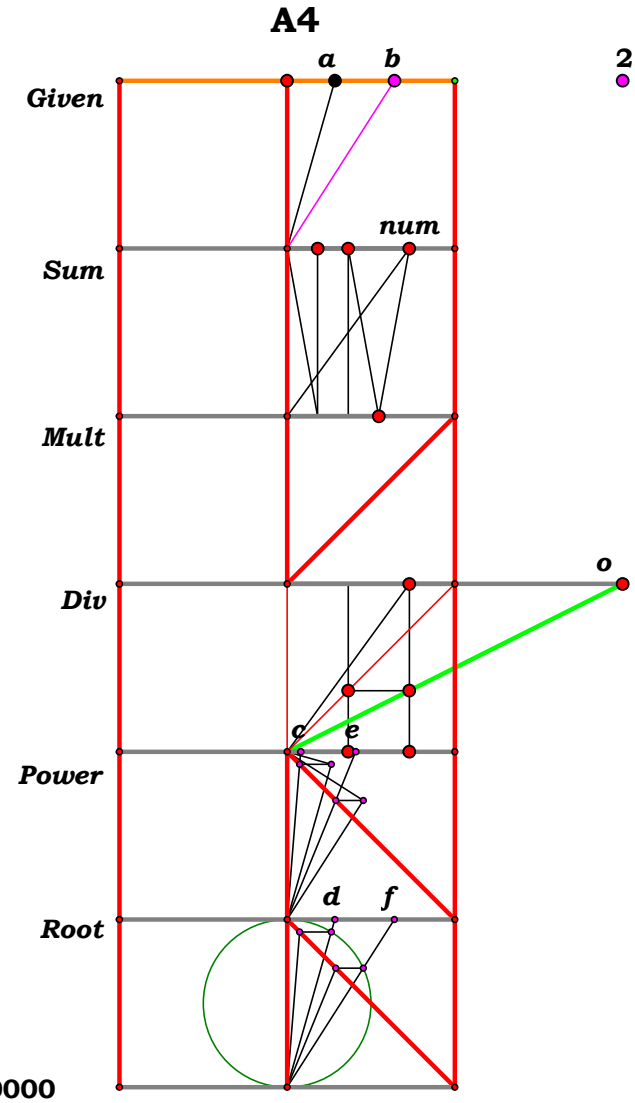
$n = 0.36427$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = 2.00000$

$$o - \frac{a \cdot \sqrt{b^2} + 2 \cdot b \cdot \sqrt{a^2} + \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$$



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$$\frac{a \cdot \sqrt{b^2} + 2 \cdot b \cdot \sqrt{a^2} + \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 2.00000$$

$a \cdot \sqrt{b^2} + 2 \cdot b \cdot \sqrt{a^2} + \sqrt{a^2 \cdot b^2} = 0.72855$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.36427$

$a = 0.62222$

$b = 0.28646$

$c = 0.38716$

$a^2 - c = 0.00000$

$d = 0.62222$

$\frac{a}{d} = 1.00000$

$e = 0.08206$

$b^2 - e = 0.00000$

$f = 0.28646$

$\frac{b}{f} = 1.00000$

$g = 0.17824$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.35649$

$h - 2 \cdot g = 0.00000$

$j = 0.17824$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = 0.35649$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = 0.17824$

$m = 0.17824$

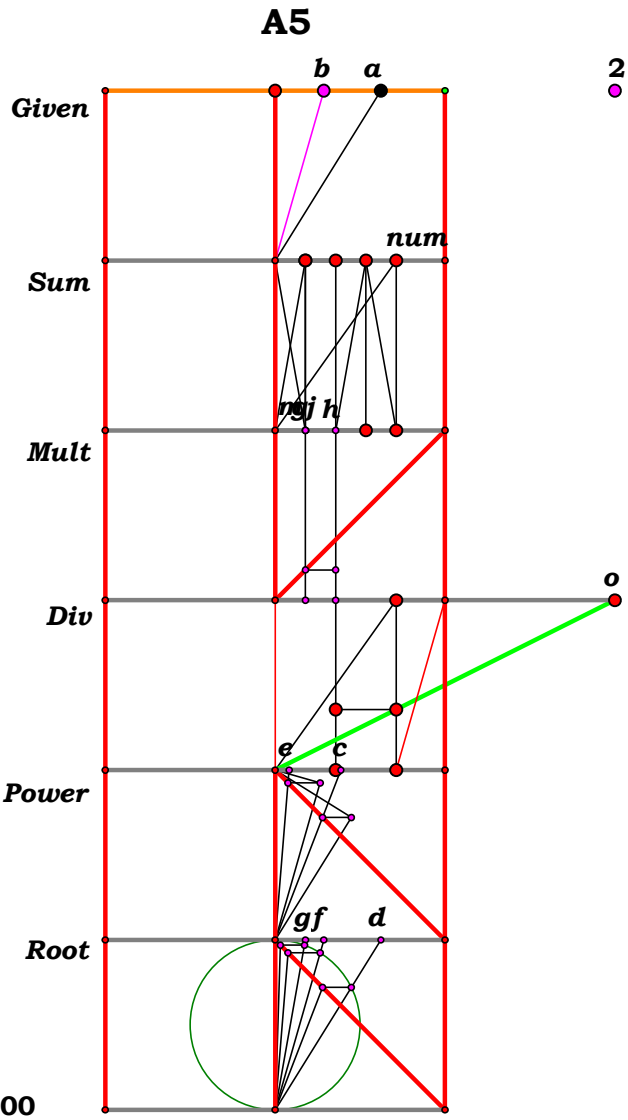
$n = 0.35649$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = 2.00000$

$$o - \frac{a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2} + 2 \cdot \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$$

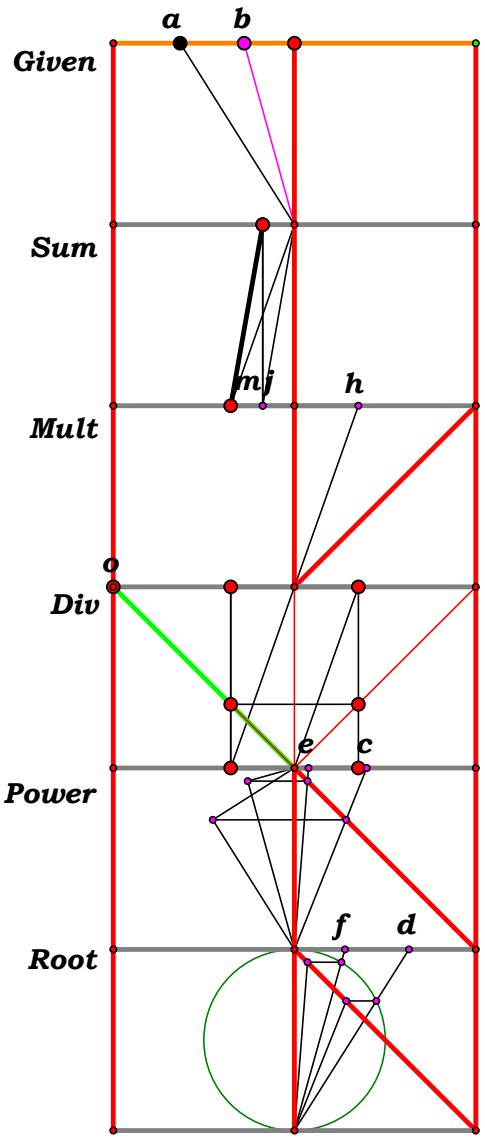


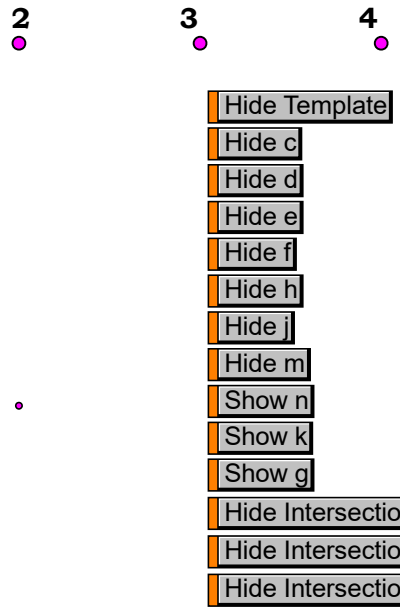
$$\frac{a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2} + 2 \cdot \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 2.00000$$

$a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2} + 2 \cdot \sqrt{a^2 \cdot b^2} = 0.71298$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.35649$

A6





$a = -0.63171$

$b = -0.27869$

$c = 0.39905$

$a^2 - c = 0.00000$

$d = 0.63171$

$\frac{a}{d} = -1.00000$

$e = 0.07767$

$b^2 - e = 0.00000$

$f = 0.27869$

$\frac{b}{f} = -1.00000$

$g = 0.17605$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.35210$

$h - 2 \cdot g = 0.00000$

$j = -0.17605$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.35210$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.17605$

$m = -0.17605$

$n = -0.35210$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -1.00000$

$o - \frac{a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$

$\frac{a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = -1.00000$

$a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2} = -0.35210$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.35210$

A7

$a = -0.72884$

$b = -0.38465$

$c = 0.53121$

$a^2 - c = 0.00000$

$d = 0.72884$

$\frac{a}{d} = -1.00000$

$e = 0.14796$

$b^2 - e = 0.00000$

$f = 0.38465$

$\frac{b}{f} = -1.00000$

$g = 0.28035$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.56070$

$h - 2 \cdot g = 0.00000$

$j = -0.28035$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.56070$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.28035$

$m = -0.28035$

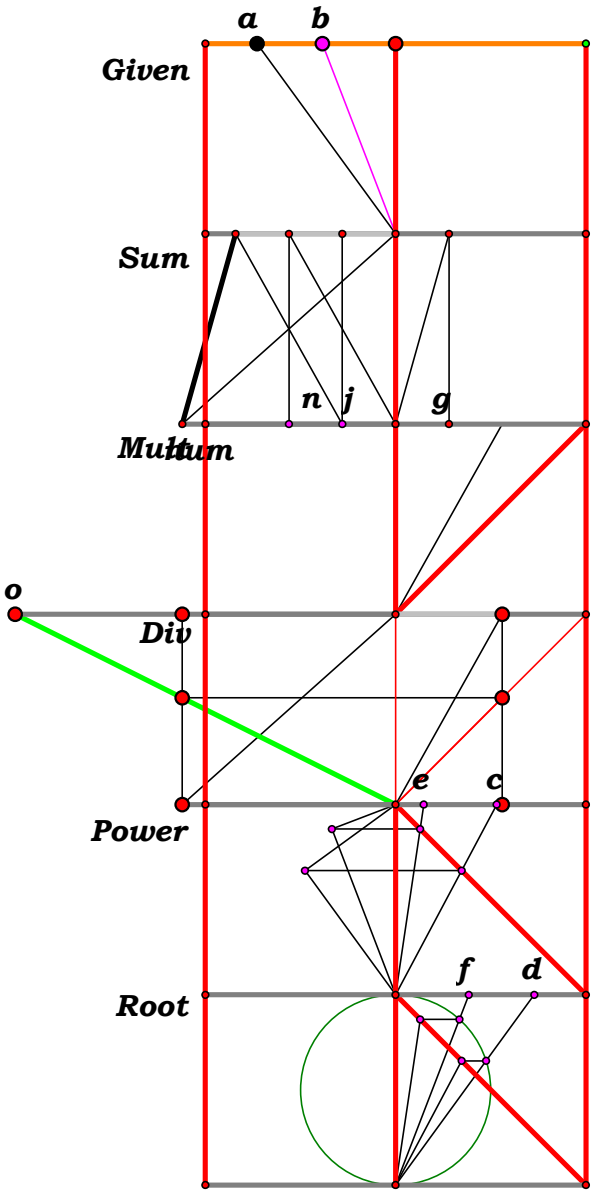
$n = -0.56070$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -2.00000$

$$o - \frac{a \cdot \sqrt{b^2} + 2 \cdot b \cdot \sqrt{a^2} - \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$$



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$$\frac{a \cdot \sqrt{b^2} + 2 \cdot b \cdot \sqrt{a^2} - \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = -2.00000$$

$a \cdot \sqrt{b^2} + 2 \cdot b \cdot \sqrt{a^2} - \sqrt{a^2 \cdot b^2} = -1.12141$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.56070$

A8

$a = -0.63171$

$b = -0.27869$

$c = 0.39905$

$a^2 - c = 0.00000$

$d = 0.63171$

$\frac{a}{d} = -1.00000$

$e = 0.07767$

$b^2 - e = 0.00000$

$f = 0.27869$

$\frac{b}{f} = -1.00000$

$g = 0.17605$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.35210$

$h - 2 \cdot g = 0.00000$

$j = -0.17605$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.35210$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.17605$

$m = -0.17605$

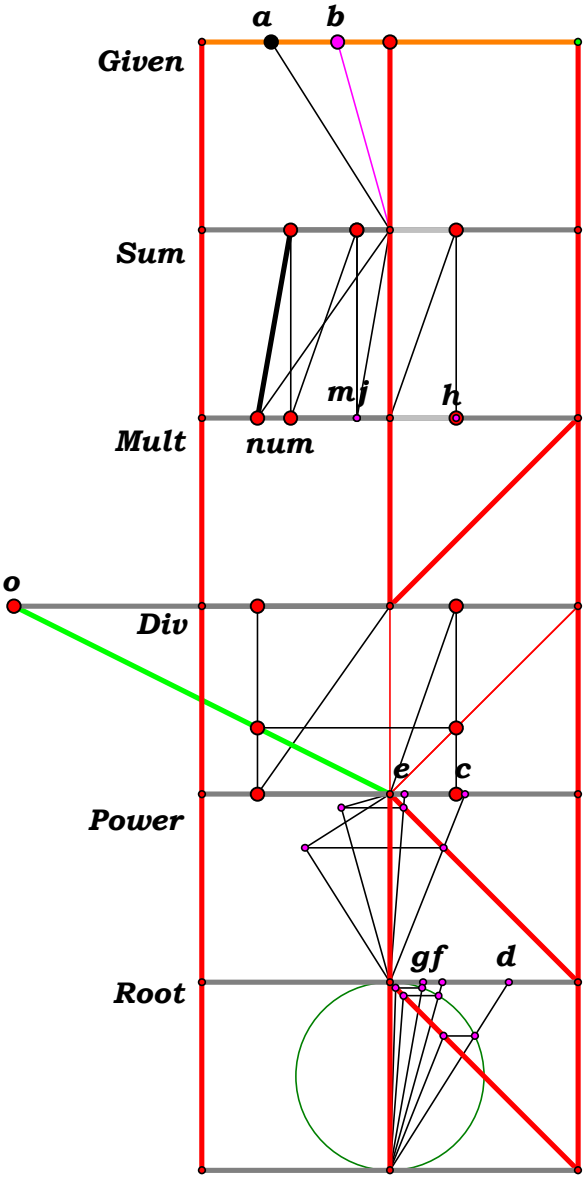
$n = -0.35210$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -2.00000$

$$o - \frac{a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2} - 2 \cdot \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$$



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$$\frac{a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2} - 2 \cdot \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = -2.00000$$

$a \cdot \sqrt{b^2} + b \cdot \sqrt{a^2} - 2 \cdot \sqrt{a^2 \cdot b^2} = -0.70419$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.35210$

$a = 0.75468$

$b = -0.58949$

$c = 0.56954$

$a^2 - c = 0.00000$

$d = 0.75468$

$\frac{a}{d} = 1.00000$

$e = 0.34749$

$b^2 - e = 0.00000$

$f = 0.58949$

$\frac{b}{f} = -1.00000$

$g = 0.44487$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.88975$

$h - 2 \cdot g = 0.00000$

$j = 0.44487$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = 0.88975$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.44487$

$m = -0.44487$

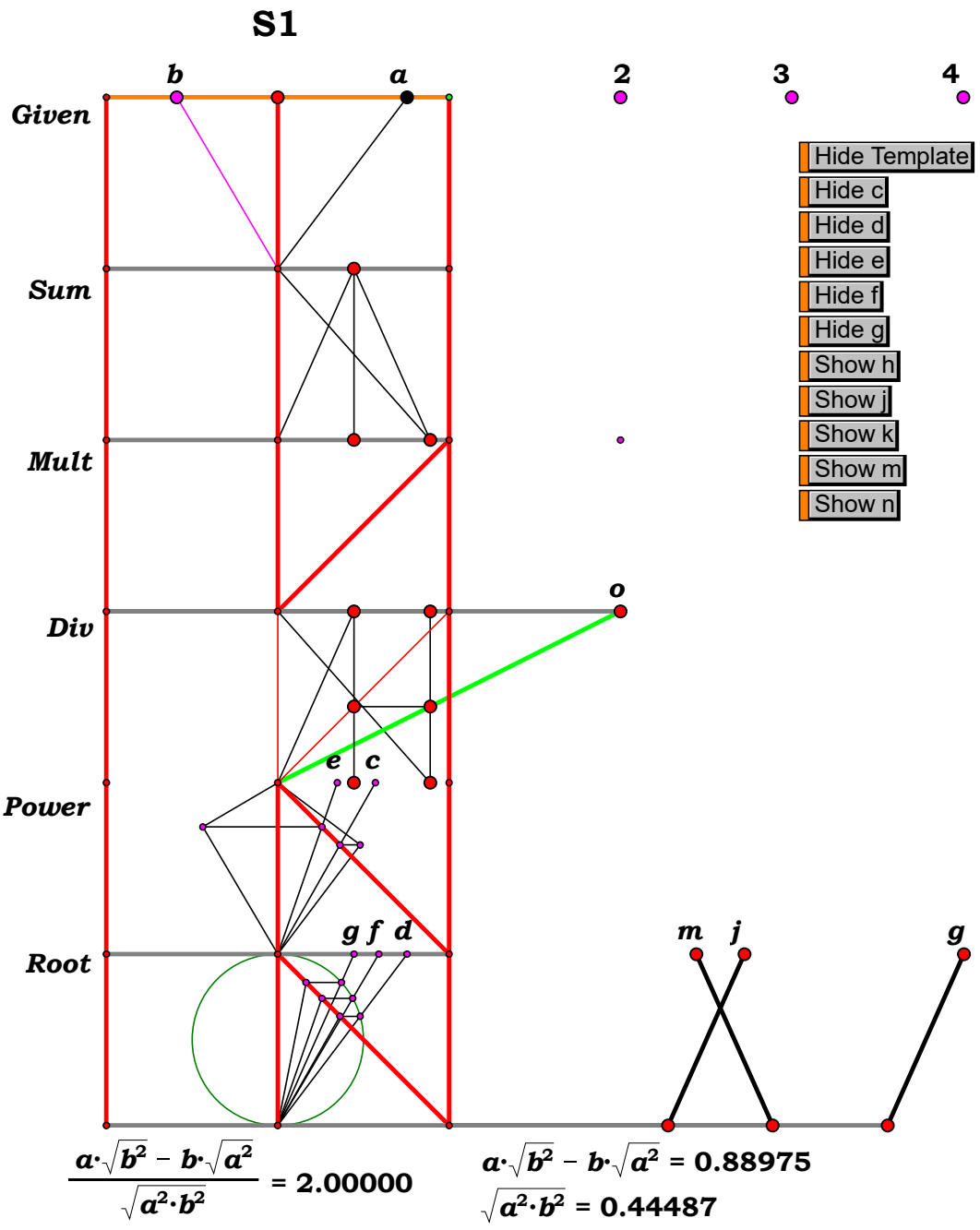
$n = -0.88975$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = 2.00000$

$o - \frac{a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2}}{\sqrt{a^2 \cdot b^2}} = 0.00000$



$\frac{a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2}}{\sqrt{a^2 \cdot b^2}} = 2.00000$

$a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2} = 0.88975$

$\sqrt{a^2 \cdot b^2} = 0.44487$

$a = -0.44627$

$b = 0.39243$

$c = 0.19915$

$a^2 - c = 0.00000$

$d = 0.44627$

$\frac{a}{d} = -1.00000$

$e = 0.15400$

$b^2 - e = 0.00000$

$f = 0.39243$

$\frac{b}{f} = 1.00000$

$g = 0.17513$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.35026$

$h - 2 \cdot g = 0.00000$

$j = -0.17513$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.35026$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = 0.17513$

$m = 0.17513$

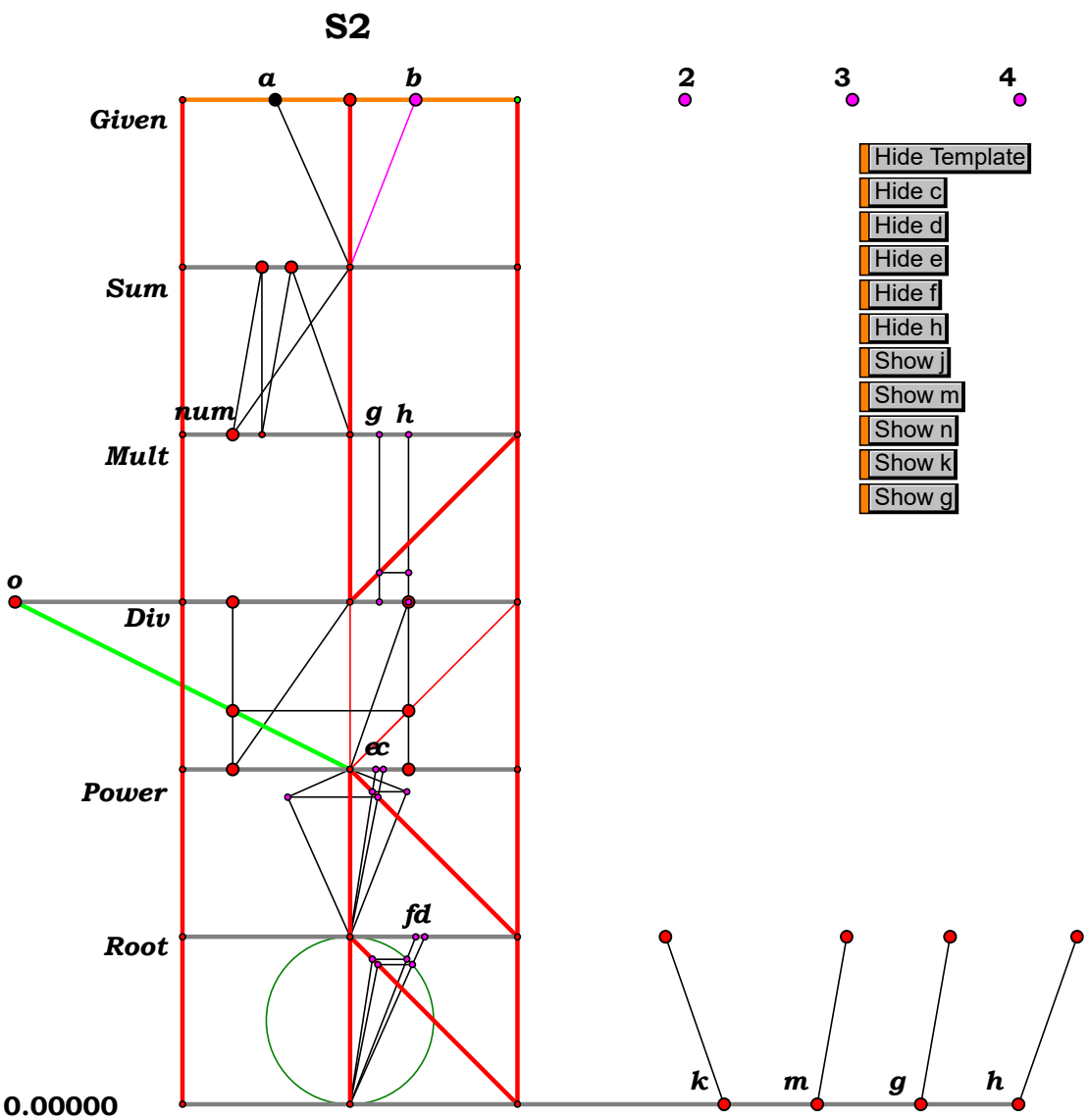
$n = 0.35026$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -2.00000$

$o - \frac{2 \cdot a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2} - \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$



$\frac{2 \cdot a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2} - \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = -2.00000$

$2 \cdot a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2} - \sqrt{a^2 \cdot b^2} = -0.70051$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.35026$

$a = 0.56041$

$b = -0.40231$

$c = 0.31406$

$a^2 - c = 0.00000$

$d = 0.56041$

$\frac{a}{d} = 1.00000$

$e = 0.16186$

$b^2 - e = 0.00000$

$f = 0.40231$

$\frac{b}{f} = -1.00000$

$g = 0.22546$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.45092$

$h - 2 \cdot g = 0.00000$

$j = 0.22546$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = 0.45092$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.22546$

$m = -0.22546$

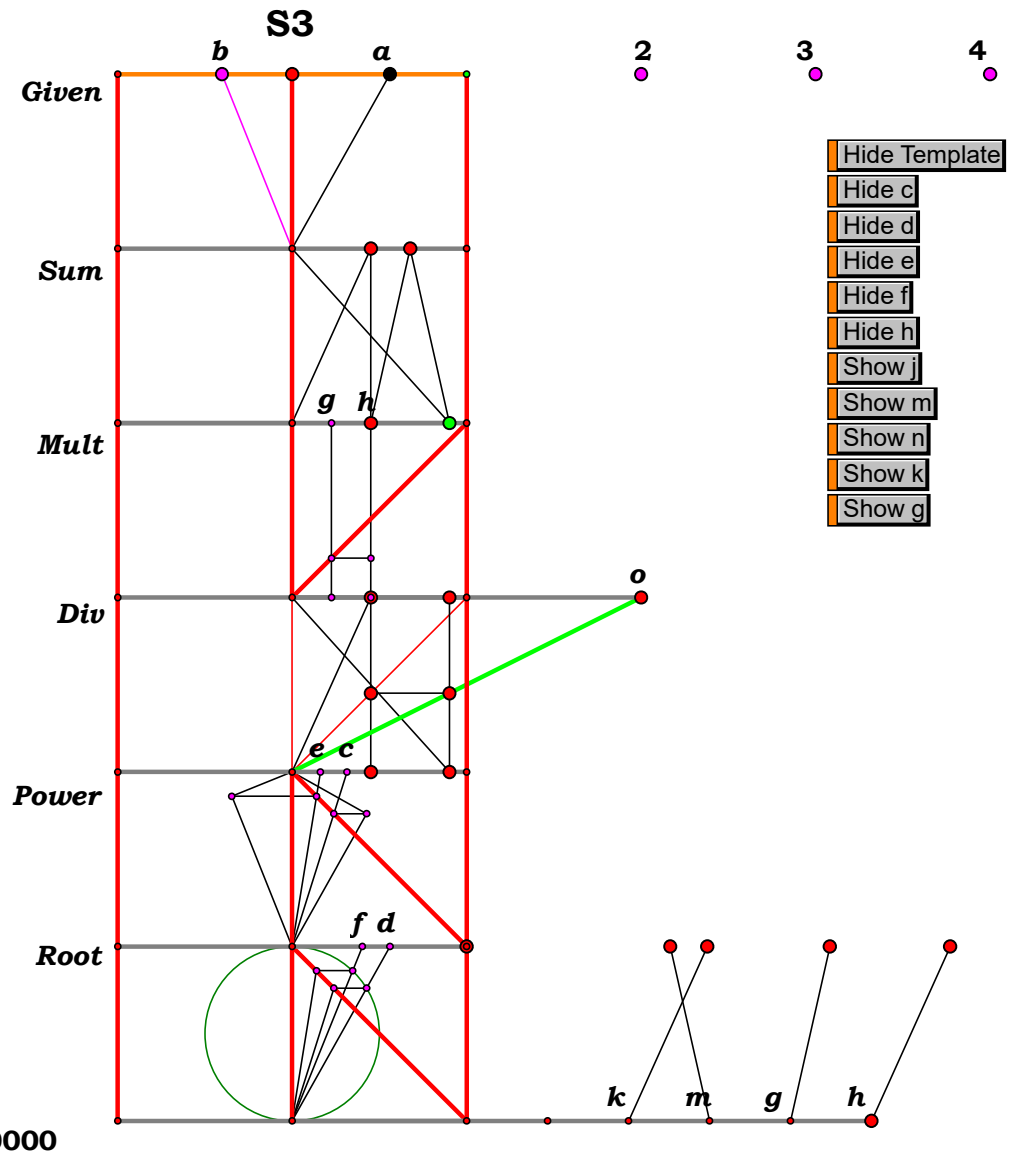
$n = -0.45092$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = 2.00000$

$$o - \frac{2 \cdot a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2} + \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$$



$$\frac{2 \cdot a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2} + \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 2.00000$$

$2 \cdot a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2} + \sqrt{a^2 \cdot b^2} = 0.90184$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.45092$

$a = 0.47210$

$b = -0.54360$

$c = 0.22288$

$a^2 - c = 0.00000$

$d = 0.47210$

$\frac{a}{d} = 1.00000$

$e = 0.29550$

$b^2 - e = 0.00000$

$f = 0.54360$

$\frac{b}{f} = -1.00000$

$g = 0.25664$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.51327$

$h - 2 \cdot g = 0.00000$

$j = 0.25664$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = 0.51327$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.25664$

$m = -0.25664$

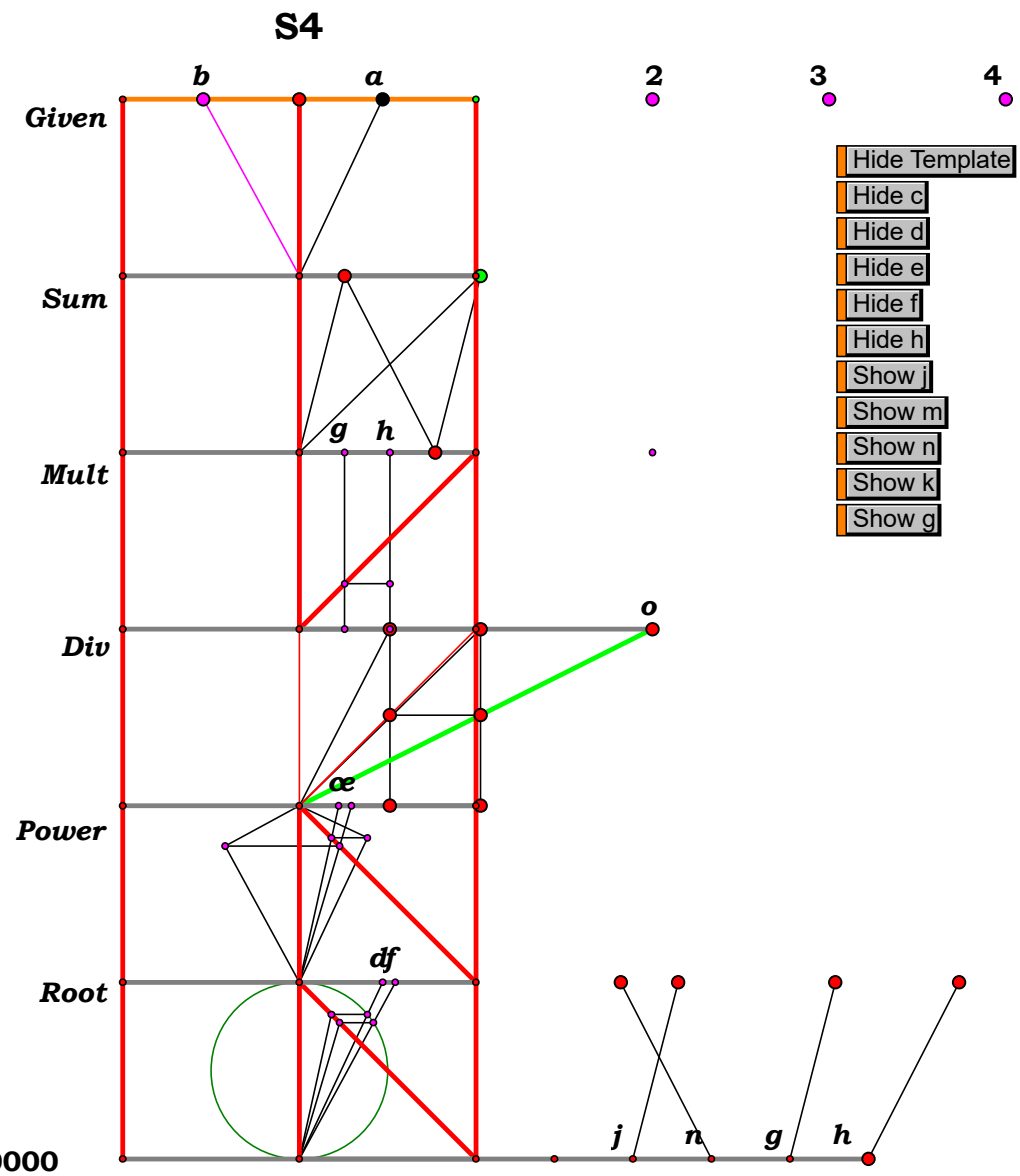
$n = -0.51327$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = 2.00000$

$$o - \frac{a \cdot \sqrt{b^2} - 2 \cdot b \cdot \sqrt{a^2} + \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$$



$$\frac{a \cdot \sqrt{b^2} - 2 \cdot b \cdot \sqrt{a^2} + \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 2.00000$$

$a \cdot \sqrt{b^2} - 2 \cdot b \cdot \sqrt{a^2} + \sqrt{a^2 \cdot b^2} = 1.02655$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.51327$

$a = -0.62029$

$b = 0.45424$

$c = 0.38476$

$a^2 - c = 0.00000$

$d = 0.62029$

$\frac{a}{d} = -1.00000$

$e = 0.20634$

$b^2 - e = 0.00000$

$f = 0.45424$

$\frac{b}{f} = 1.00000$

$g = 0.28176$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.56352$

$h - 2 \cdot g = 0.00000$

$j = -0.28176$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.56352$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = 0.28176$

$m = 0.28176$

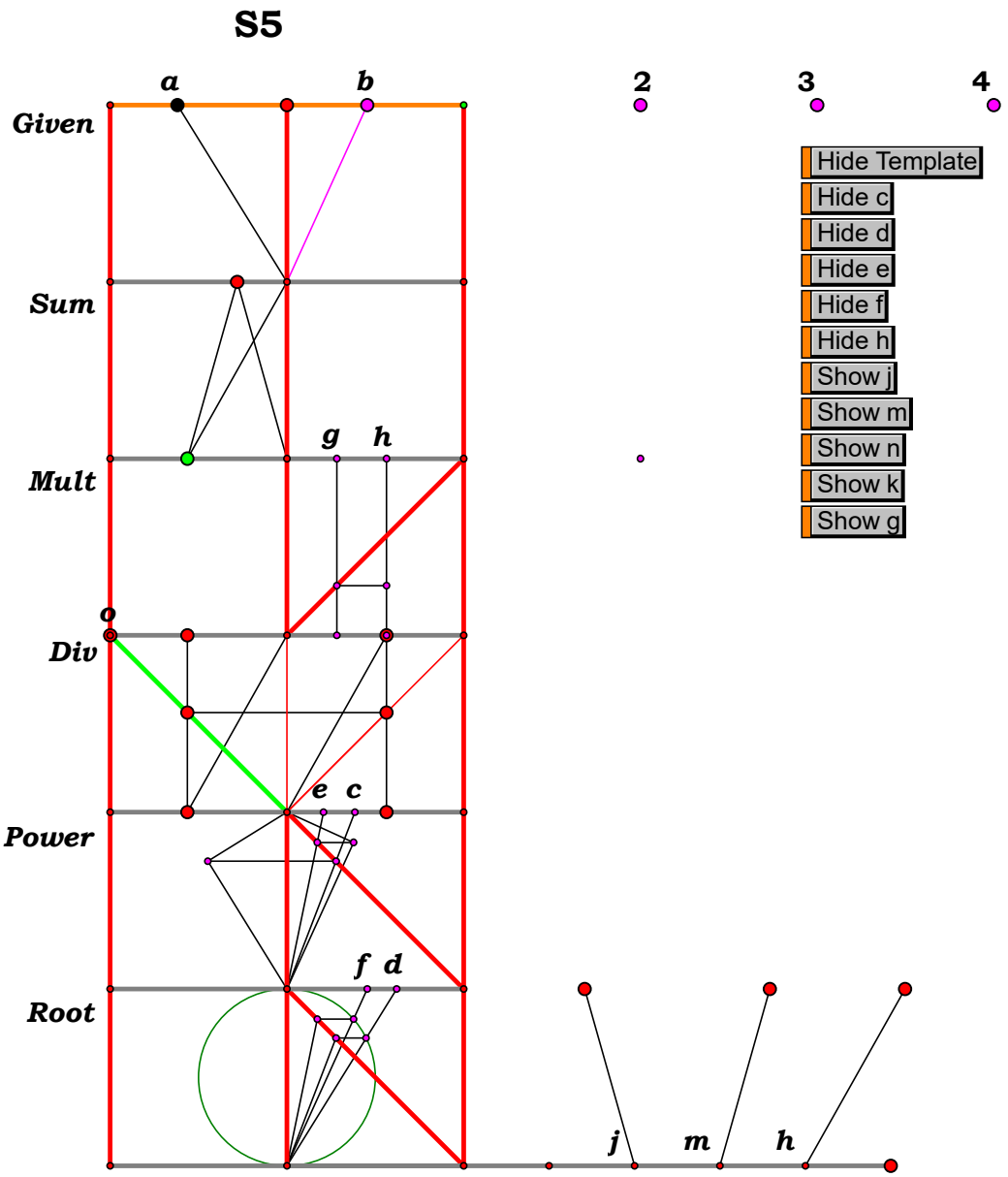
$n = 0.56352$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -1.00000$

$$o - \frac{a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$$



$$\frac{a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = -1.00000$$

$a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2} = -0.56352$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.56352$

$a = 0.15679$

$b = -0.80852$

$c = 0.02458$

$a^2 - c = 0.00000$

$d = 0.15679$

$\frac{a}{d} = 1.00000$

$e = 0.65370$

$b^2 - e = 0.00000$

$f = 0.80852$

$\frac{b}{f} = -1.00000$

$g = 0.12677$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.25354$

$h - 2 \cdot g = 0.00000$

$j = 0.12677$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = 0.25354$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.12677$

$m = -0.12677$

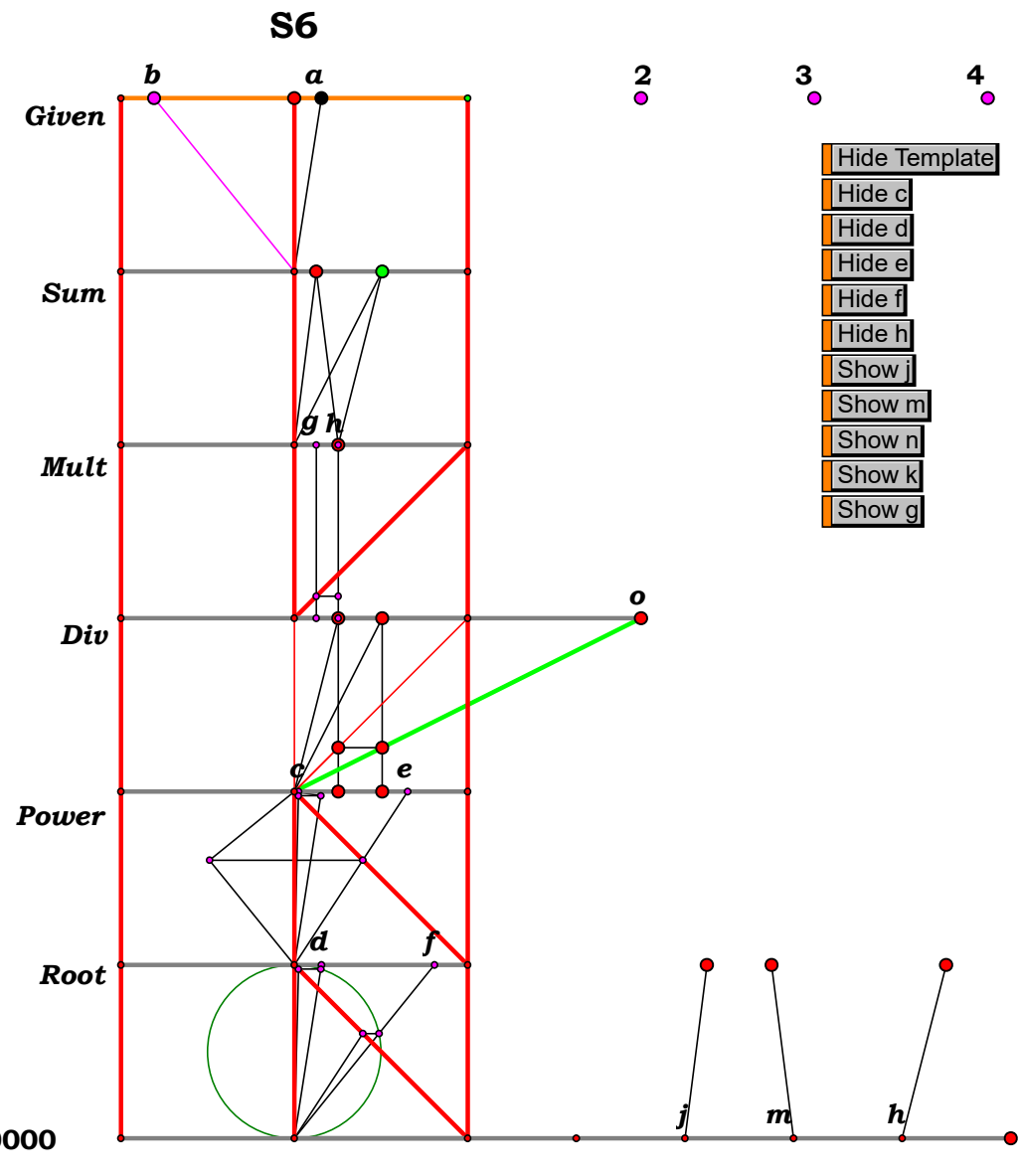
$n = -0.25354$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = 2.00000$

$$o - \frac{a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2} + 2 \cdot \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$$



$$\frac{a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2} + 2 \cdot \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 2.00000$$

$a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2} + 2 \cdot \sqrt{a^2 \cdot b^2} = 0.50708$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.25354$

$a = -0.68662$

$b = 0.52315$

$c = 0.47145$

$a^2 - c = 0.00000$

$d = 0.68662$

$\frac{a}{d} = -1.00000$

$e = 0.27369$

$b^2 - e = 0.00000$

$f = 0.52315$

$\frac{b}{f} = 1.00000$

$g = 0.35921$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.71842$

$h - 2 \cdot g = 0.00000$

$j = -0.35921$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.71842$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = 0.35921$

$m = 0.35921$

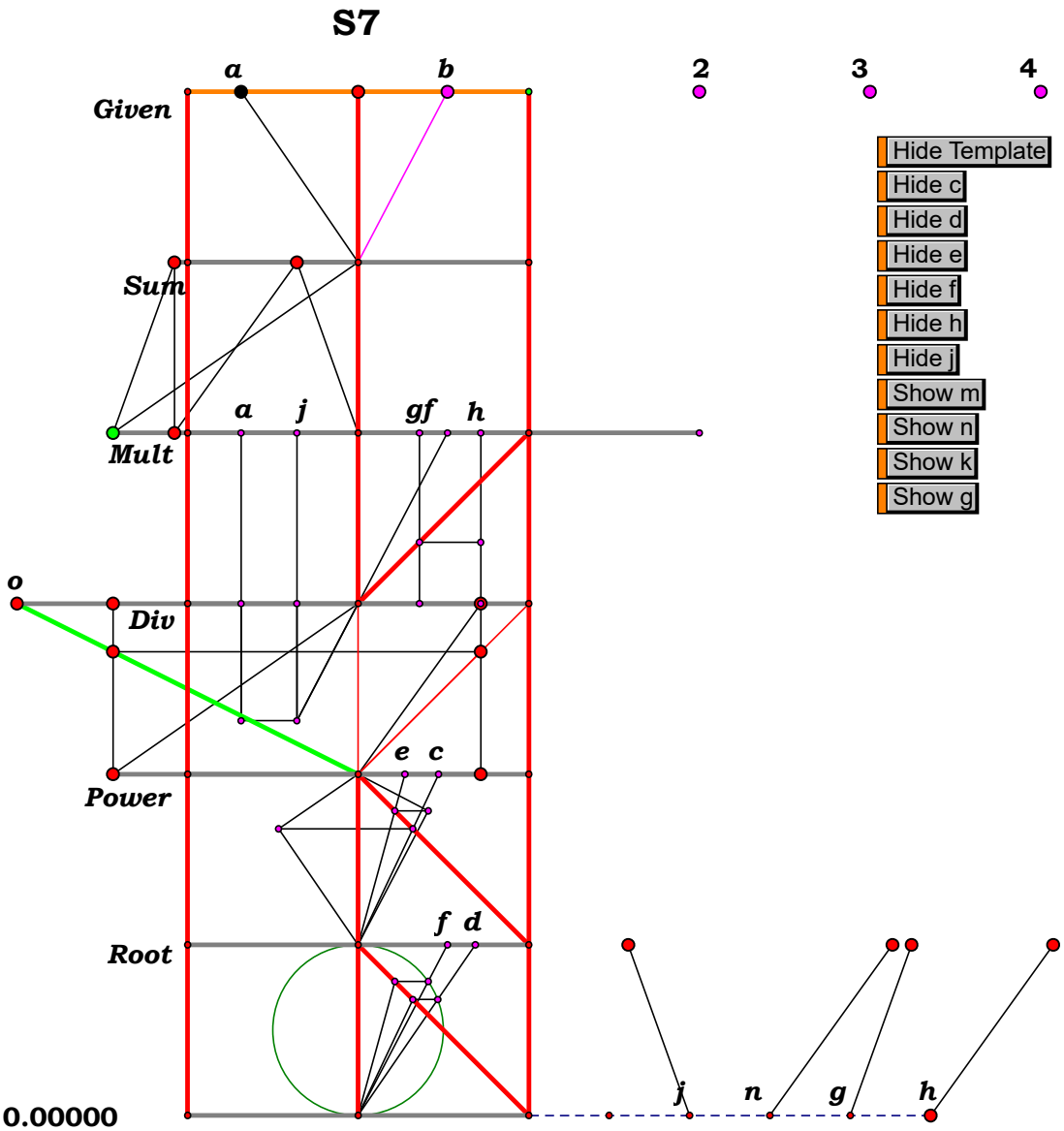
$n = 0.71842$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -2.00000$

$$o - \frac{a \cdot \sqrt{b^2} - 2 \cdot b \cdot \sqrt{a^2} - \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$$



$$\frac{a \cdot \sqrt{b^2} - 2 \cdot b \cdot \sqrt{a^2} - \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = -2.00000$$

$a \cdot \sqrt{b^2} - 2 \cdot b \cdot \sqrt{a^2} - \sqrt{a^2 \cdot b^2} = -1.43684$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.71842$

$a = -0.35796$

$b = 0.32179$

$c = 0.12814$

$a^2 - c = 0.00000$

$d = 0.35796$

$\frac{a}{d} = -1.00000$

$e = 0.10355$

$b^2 - e = 0.00000$

$f = 0.32179$

$\frac{b}{f} = 1.00000$

$g = 0.11519$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.23037$

$h - 2 \cdot g = 0.00000$

$j = -0.11519$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.23037$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = 0.11519$

$m = 0.11519$

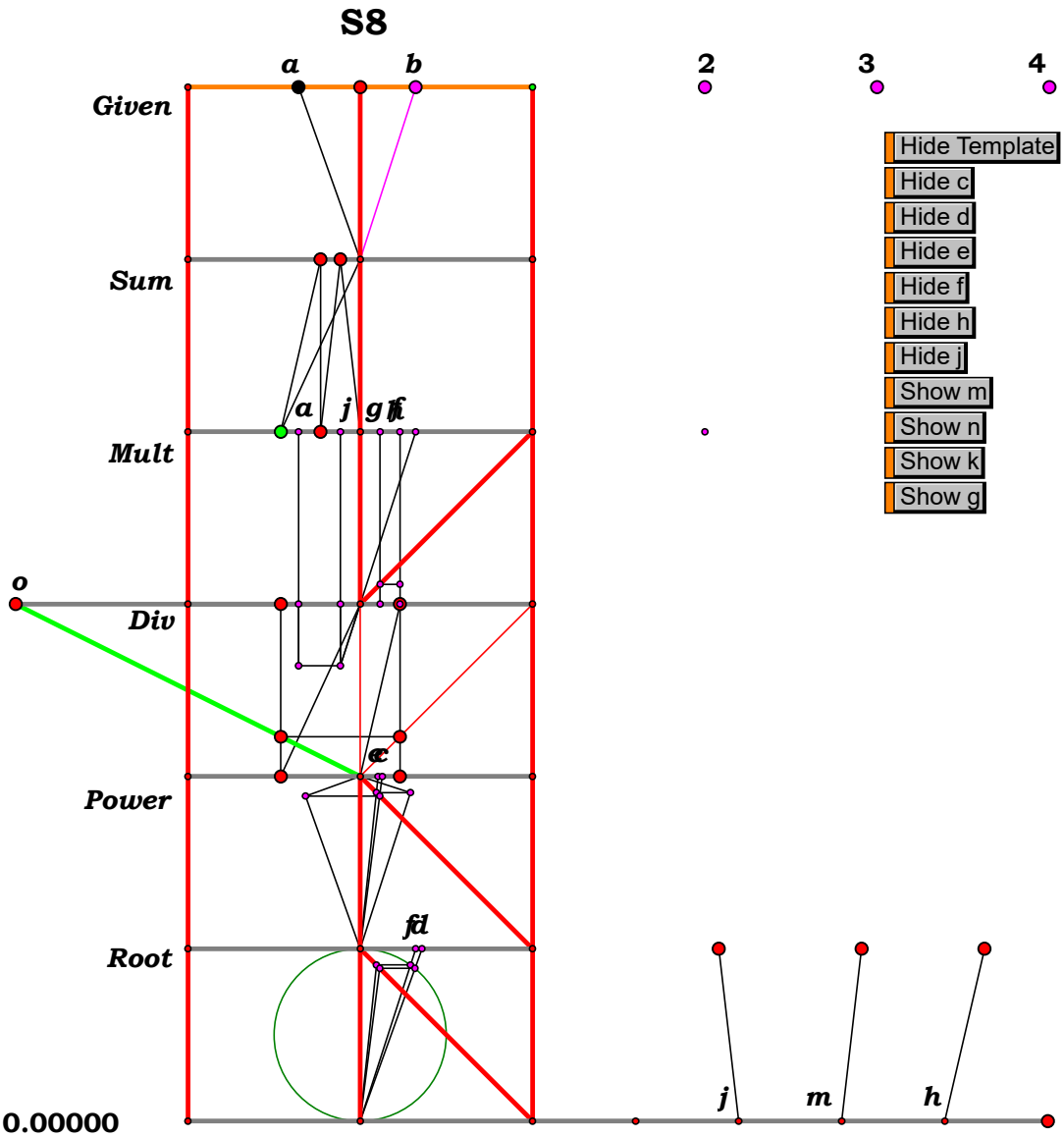
$n = 0.23037$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -2.00000$

$$o - \frac{a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2} - 2 \cdot \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$$



$$\frac{a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2} - 2 \cdot \sqrt{a^2 \cdot b^2}}{2 \cdot \sqrt{a^2 \cdot b^2}} = -2.00000$$

$a \cdot \sqrt{b^2} - b \cdot \sqrt{a^2} - 2 \cdot \sqrt{a^2 \cdot b^2} = -0.46075$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.23037$

$a = -0.34030$

$b = -0.71138$

$c = 0.11580$

$a^2 - c = 0.00000$

$d = 0.34030$

$\frac{a}{d} = -1.00000$

$e = 0.50606$

$b^2 - e = 0.00000$

$f = 0.71138$

$\frac{b}{f} = -1.00000$

$g = 0.24208$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.48417$

$h - 2 \cdot g = 0.00000$

$j = -0.24208$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.48417$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.24208$

$m = -0.24208$

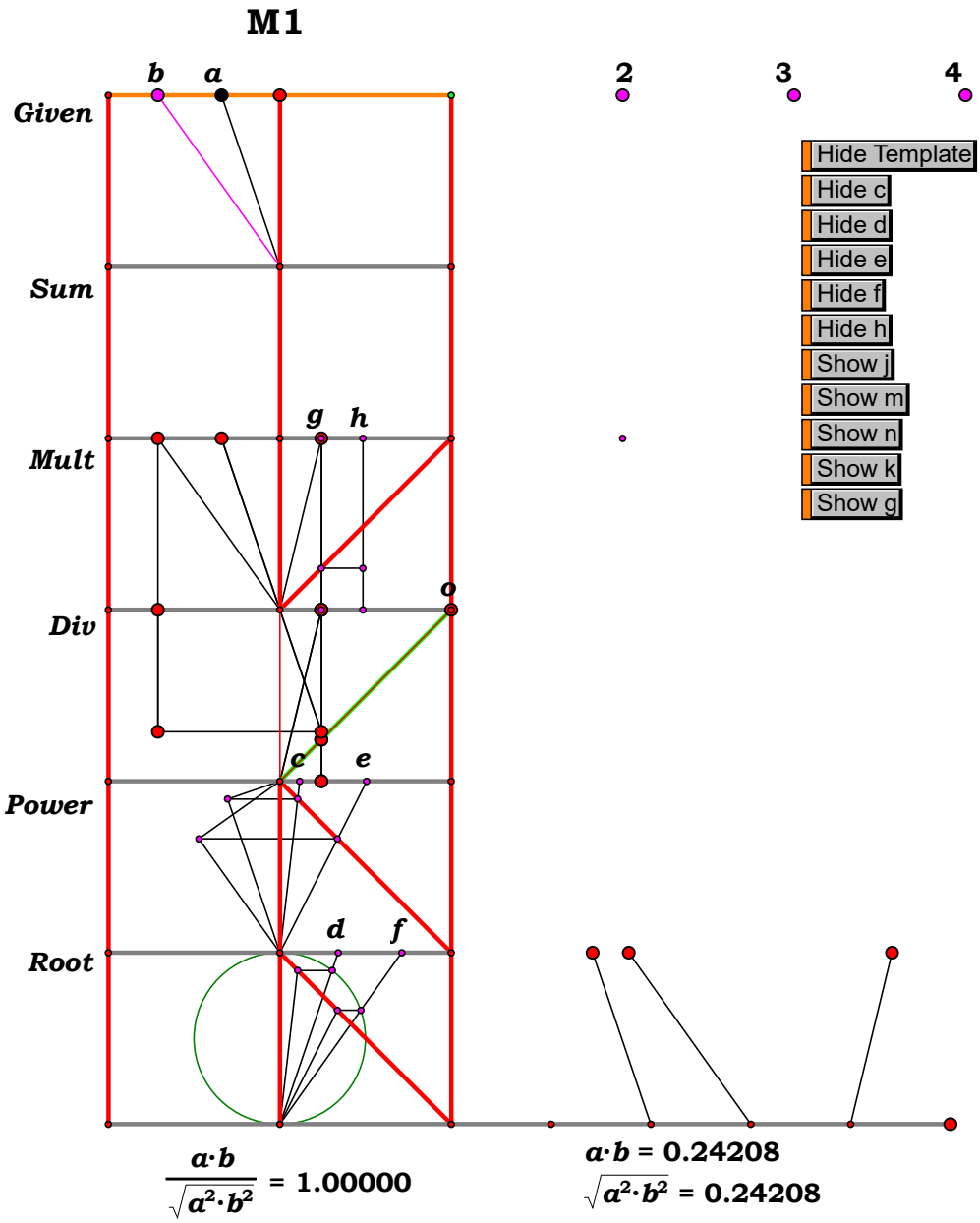
$n = -0.48417$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = 1.00000$

$o - \frac{a \cdot b}{\sqrt{a^2 \cdot b^2}} = 0.00000$



$a = 0.42795$

$b = -0.68489$

$c = 0.18314$

$a^2 - c = 0.00000$

$d = 0.42795$

$\frac{a}{d} = 1.00000$

$e = 0.46907$

$b^2 - e = 0.00000$

$f = 0.68489$

$\frac{b}{f} = -1.00000$

$g = 0.29310$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.58620$

$h - 2 \cdot g = 0.00000$

$j = 0.29310$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = 0.58620$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.29310$

$m = -0.29310$

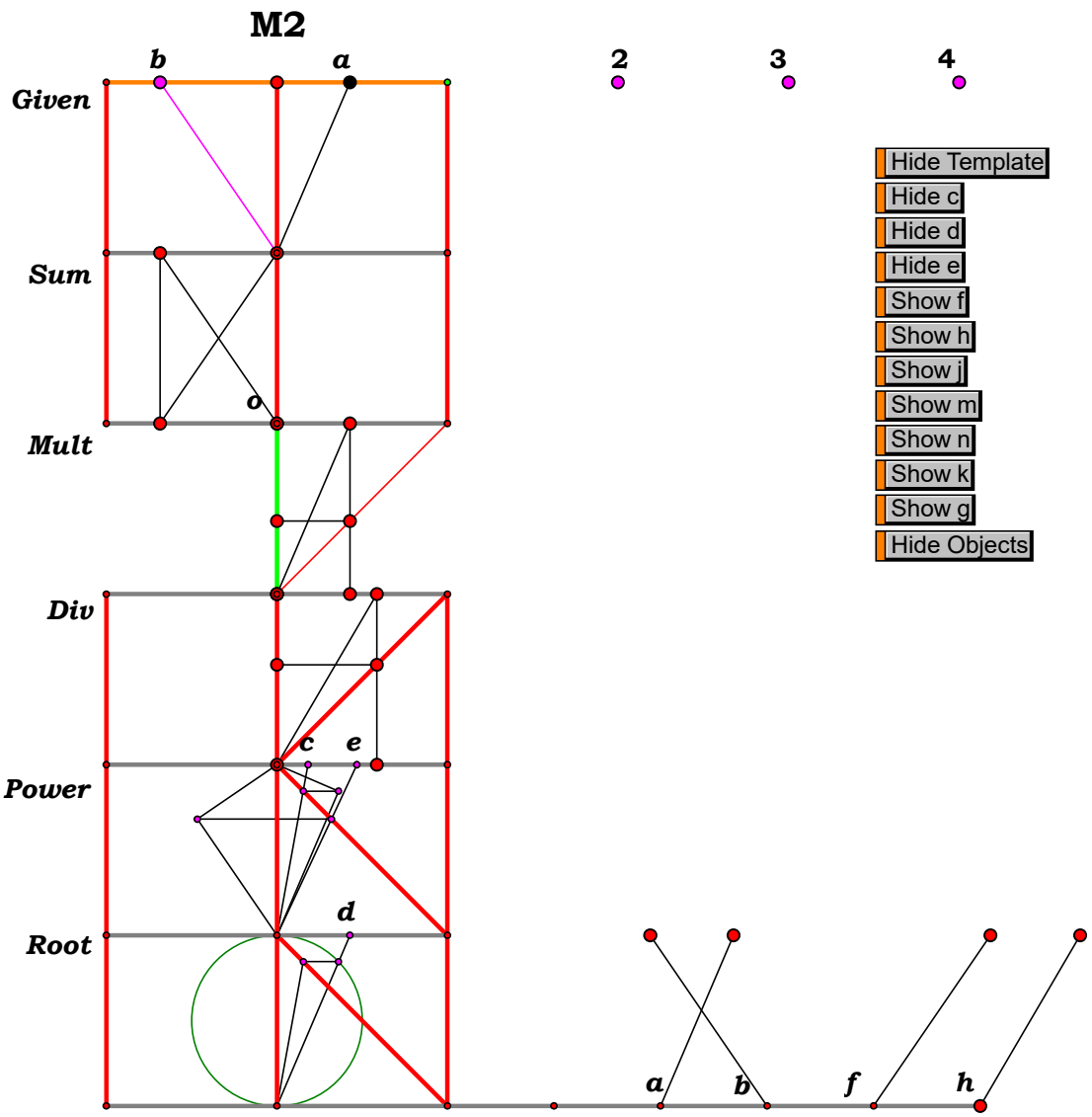
$n = -0.58620$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = 0.00000$

$o - \frac{a \cdot (b + \sqrt{b^2})}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$



$\frac{a \cdot (b + \sqrt{b^2})}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$

$a \cdot (b + \sqrt{b^2}) = 0.00000$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.58620$

$a = 0.57183$

$b = -0.27869$

$c = 0.32698$

$a^2 - c = 0.00000$

$d = 0.57183$

$\frac{a}{d} = 1.00000$

$e = 0.07767$

$b^2 - e = 0.00000$

$f = 0.27869$

$\frac{b}{f} = -1.00000$

$g = 0.15936$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.31872$

$h - 2 \cdot g = 0.00000$

$j = 0.15936$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = 0.31872$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.15936$

$m = -0.15936$

$n = -0.31872$

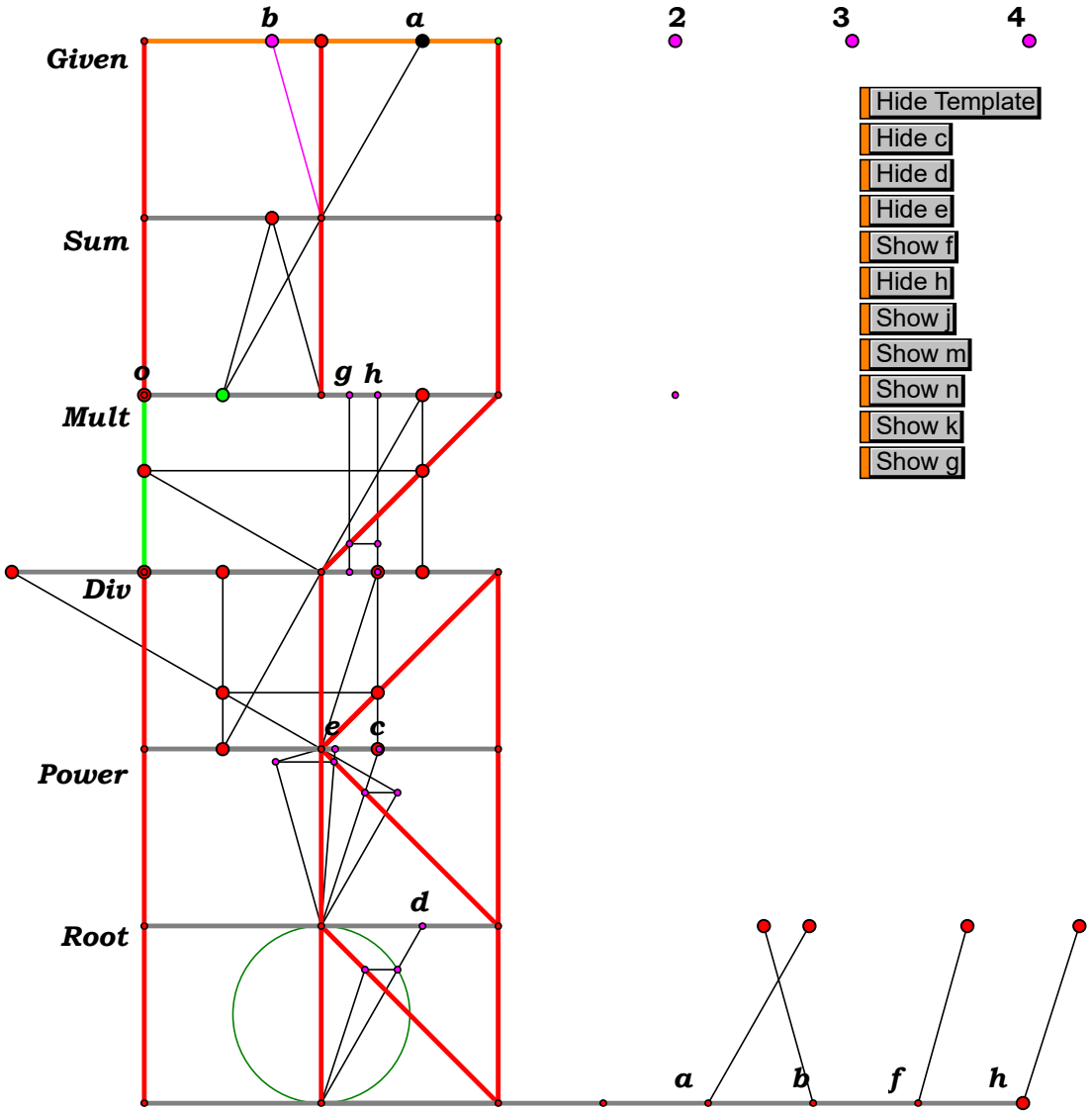
$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -1.00000$

$o - \frac{a \cdot \left(b - \sqrt{b^2}\right)}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$

M3



$\frac{a \cdot \left(b - \sqrt{b^2}\right)}{2 \cdot \sqrt{a^2 \cdot b^2}} = -1.00000$

$a \cdot \left(b - \sqrt{b^2}\right) = -0.31872$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.31872$

$a = 0.70170$

$b = -0.47017$

$c = 0.49238$

$a^2 - c = 0.00000$

$d = 0.70170$

$\frac{a}{d} = 1.00000$

$e = 0.22106$

$b^2 - e = 0.00000$

$f = 0.47017$

$\frac{b}{f} = -1.00000$

$g = 0.32992$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.65983$

$h - 2 \cdot g = 0.00000$

$j = 0.32992$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = 0.65983$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.32992$

$m = -0.32992$

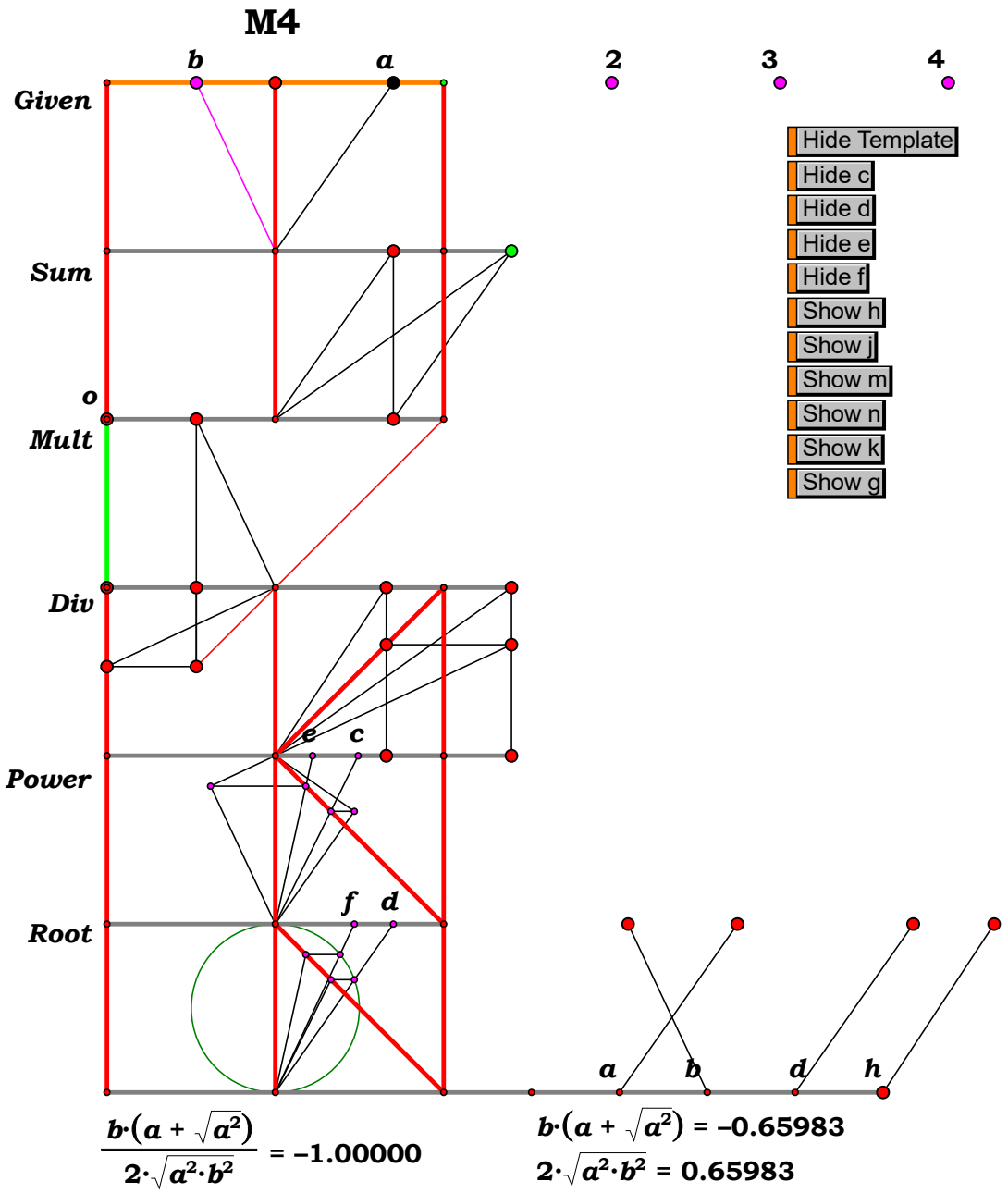
$n = -0.65983$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -1.00000$

$o - \frac{b \cdot (a + \sqrt{a^2})}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$



$\frac{b \cdot (a + \sqrt{a^2})}{2 \cdot \sqrt{a^2 \cdot b^2}} = -1.00000$

$b \cdot (a + \sqrt{a^2}) = -0.65983$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.65983$

$a = 0.80766$

$b = 0.46134$

$c = 0.65232$

$a^2 - c = 0.00000$

$d = 0.80766$

$\frac{a}{d} = 1.00000$

$e = 0.21284$

$b^2 - e = 0.00000$

$f = 0.46134$

$\frac{b}{f} = 1.00000$

$g = 0.37261$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.74521$

$h - 2 \cdot g = 0.00000$

$j = 0.37261$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = 0.74521$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = 0.37261$

$m = 0.37261$

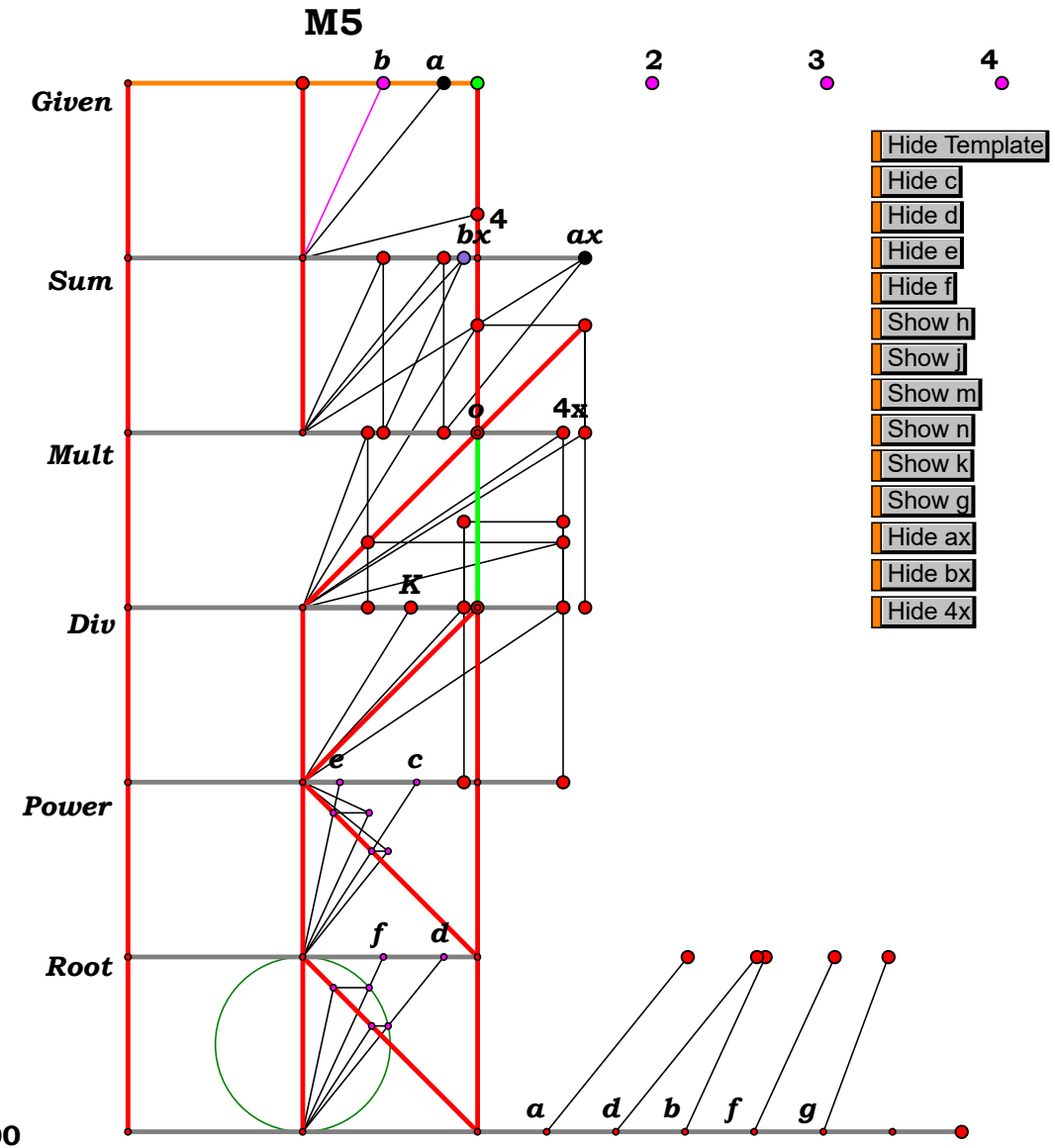
$n = 0.74521$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = 1.00000$

$o - \frac{(a + \sqrt{a^2}) \cdot (b + \sqrt{b^2})}{4 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$



$\frac{(a + \sqrt{a^2}) \cdot (b + \sqrt{b^2})}{4 \cdot \sqrt{a^2 \cdot b^2}} = 1.00000$

$(a + \sqrt{a^2}) \cdot (b + \sqrt{b^2}) = 1.49043$

$4 \cdot \sqrt{a^2 \cdot b^2} = 1.49043$

$a = 0.31316$

$b = -0.26103$

$c = 0.09807$

$a^2 - c = 0.00000$

$d = 0.31316$

$\frac{a}{d} = 1.00000$

$e = 0.06813$

$b^2 - e = 0.00000$

$f = 0.26103$

$\frac{b}{f} = -1.00000$

$g = 0.08174$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.16348$

$h - 2 \cdot g = 0.00000$

$j = 0.08174$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = 0.16348$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.08174$

$m = -0.08174$

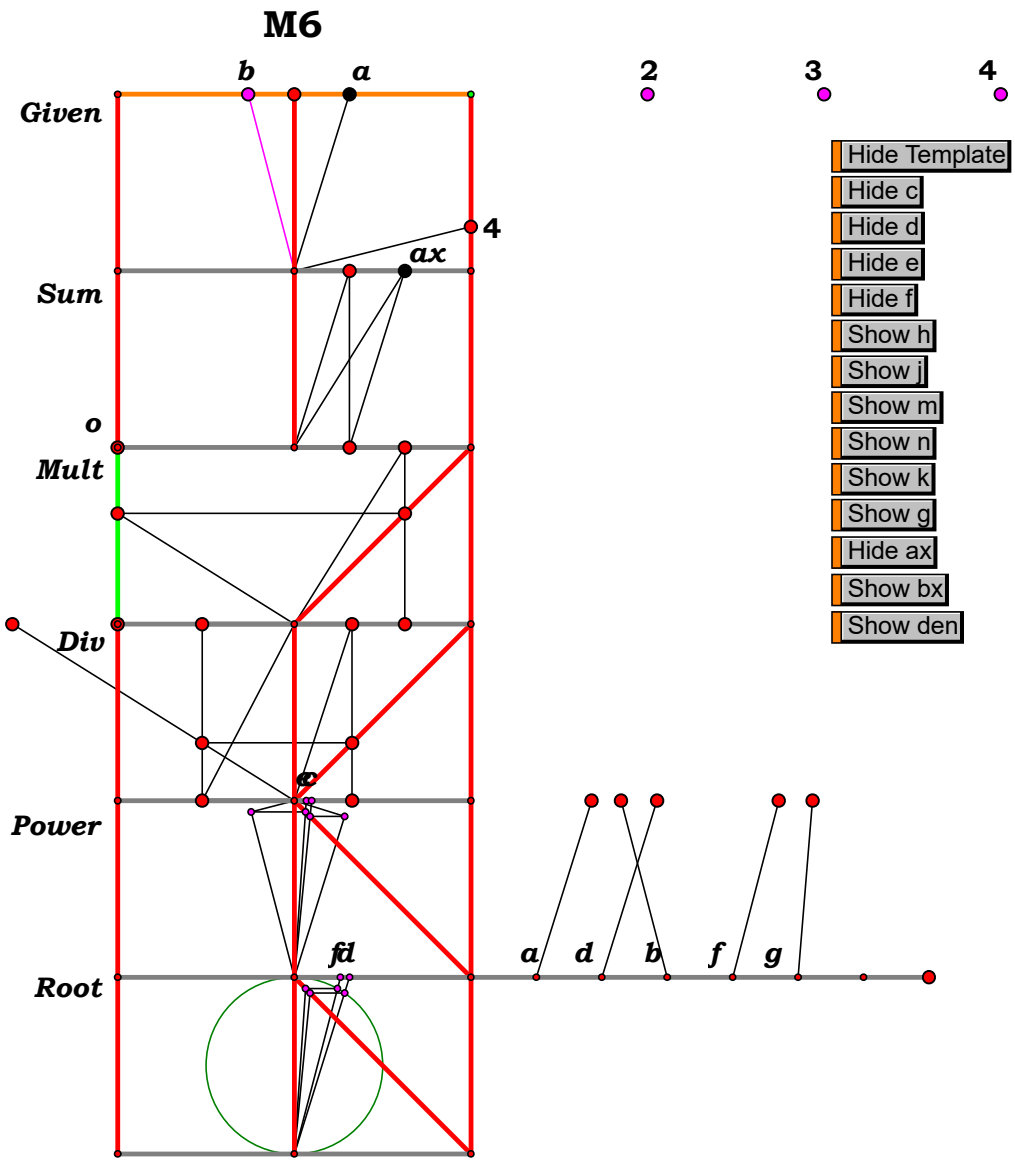
$n = -0.16348$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -1.00000$

$o - \frac{(a + \sqrt{a^2}) \cdot (b - \sqrt{b^2})}{4 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$



$\frac{(a + \sqrt{a^2}) \cdot (b - \sqrt{b^2})}{4 \cdot \sqrt{a^2 \cdot b^2}} = -1.00000$

$(a + \sqrt{a^2}) \cdot (b - \sqrt{b^2}) = -0.32697$

$4 \cdot \sqrt{a^2 \cdot b^2} = 0.32697$

$a = -0.60521$

$b = -0.28752$

$c = 0.36629$

$a^2 - c = 0.00000$

$d = 0.60521$

$\frac{a}{d} = -1.00000$

$e = 0.08267$

$b^2 - e = 0.00000$

$f = 0.28752$

$\frac{b}{f} = -1.00000$

$g = 0.17401$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.34802$

$h - 2 \cdot g = 0.00000$

$j = -0.17401$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.34802$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.17401$

$m = -0.17401$

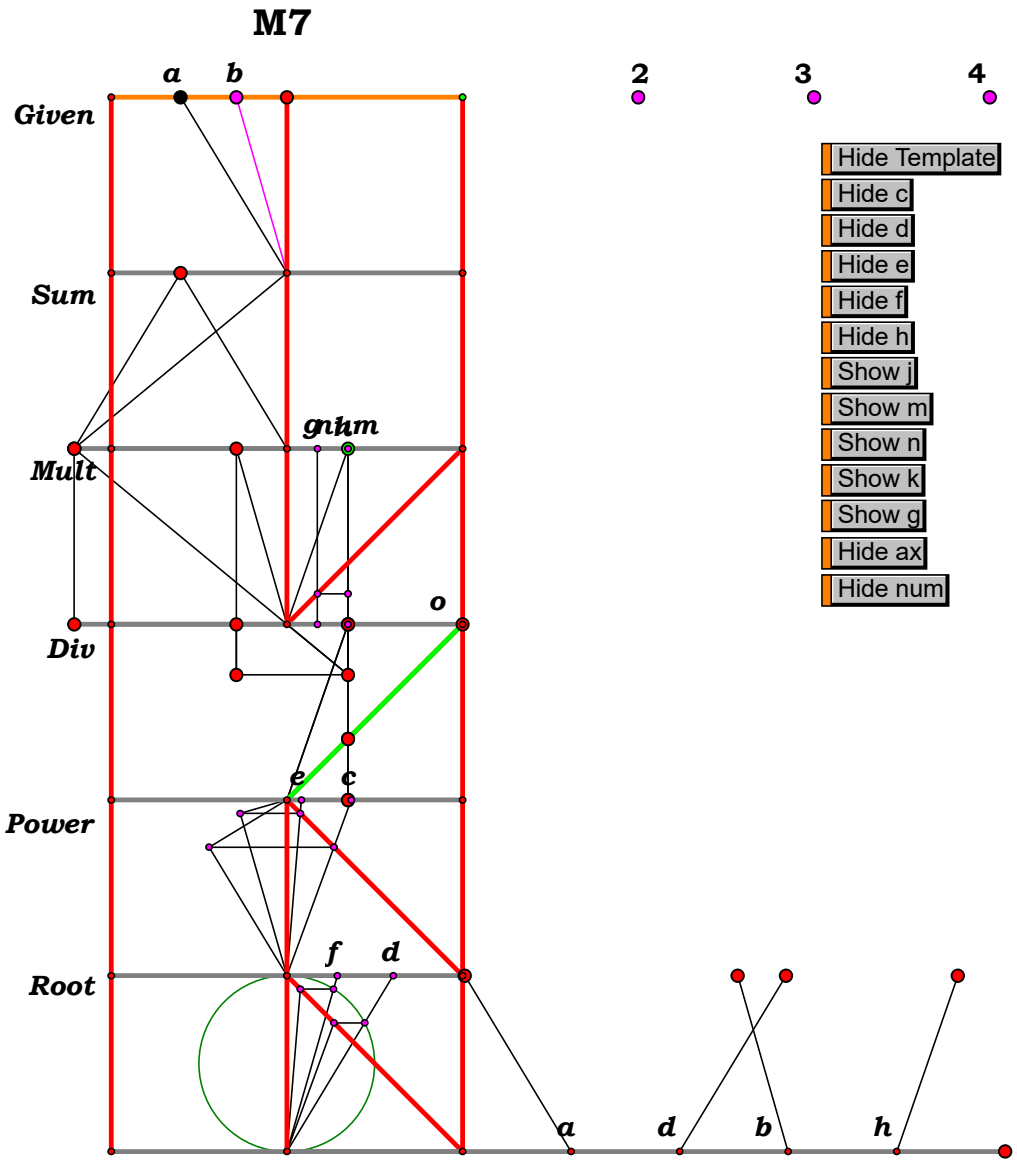
$n = -0.34802$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = 1.00000$

$o - \frac{b \cdot (a - \sqrt{a^2})}{2 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$



$\frac{b \cdot (a - \sqrt{a^2})}{2 \cdot \sqrt{a^2 \cdot b^2}} = 1.00000$

$b \cdot (a - \sqrt{a^2}) = 0.34802$

$2 \cdot \sqrt{a^2 \cdot b^2} = 0.34802$

$a = -0.40211$

$b = 0.76331$

$c = 0.16170$

$a^2 - c = 0.00000$

$d = 0.40211$

$\frac{a}{d} = -1.00000$

$e = 0.58264$

$b^2 - e = 0.00000$

$f = 0.76331$

$\frac{b}{f} = 1.00000$

$g = 0.30694$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.61387$

$h - 2 \cdot g = 0.00000$

$j = -0.30694$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.61387$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = 0.30694$

$m = 0.30694$

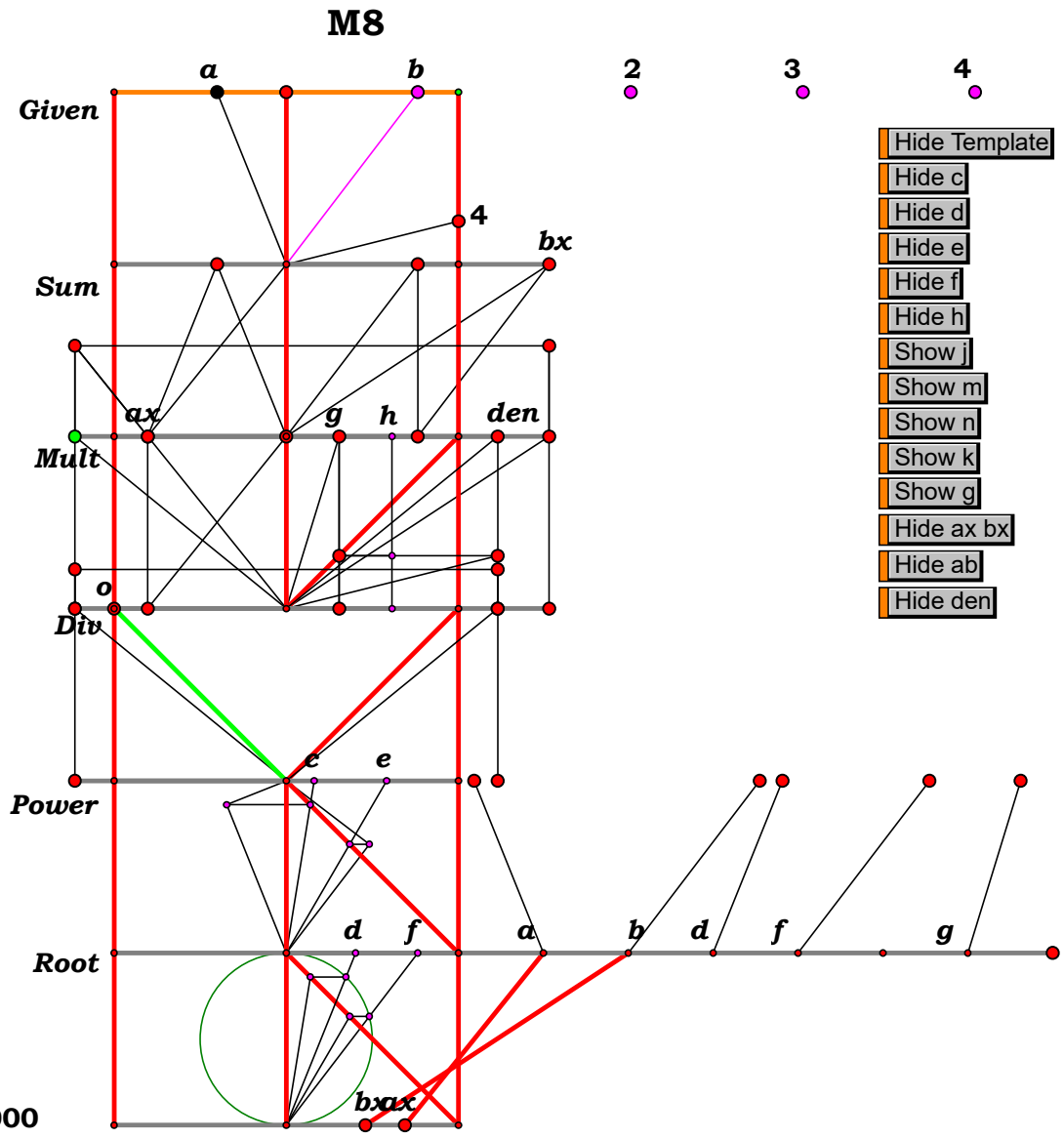
$n = 0.61387$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -1.00000$

$$o - \frac{(a - \sqrt{a^2}) \cdot (b + \sqrt{b^2})}{4 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$$



$$\frac{(a - \sqrt{a^2}) \cdot (b + \sqrt{b^2})}{4 \cdot \sqrt{a^2 \cdot b^2}} = -1.00000$$

$(a - \sqrt{a^2}) \cdot (b + \sqrt{b^2}) = -1.22775$

$4 \cdot \sqrt{a^2 \cdot b^2} = 1.22775$

$a = -0.82598$

$b = -0.31401$

$c = 0.68224$

$a^2 - c = 0.00000$

$d = 0.82598$

$\frac{a}{d} = -1.00000$

$e = 0.09860$

$b^2 - e = 0.00000$

$f = 0.31401$

$\frac{b}{f} = -1.00000$

$g = 0.25936$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.51873$

$h - 2 \cdot g = 0.00000$

$j = -0.25936$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.51873$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.25936$

$m = -0.25936$

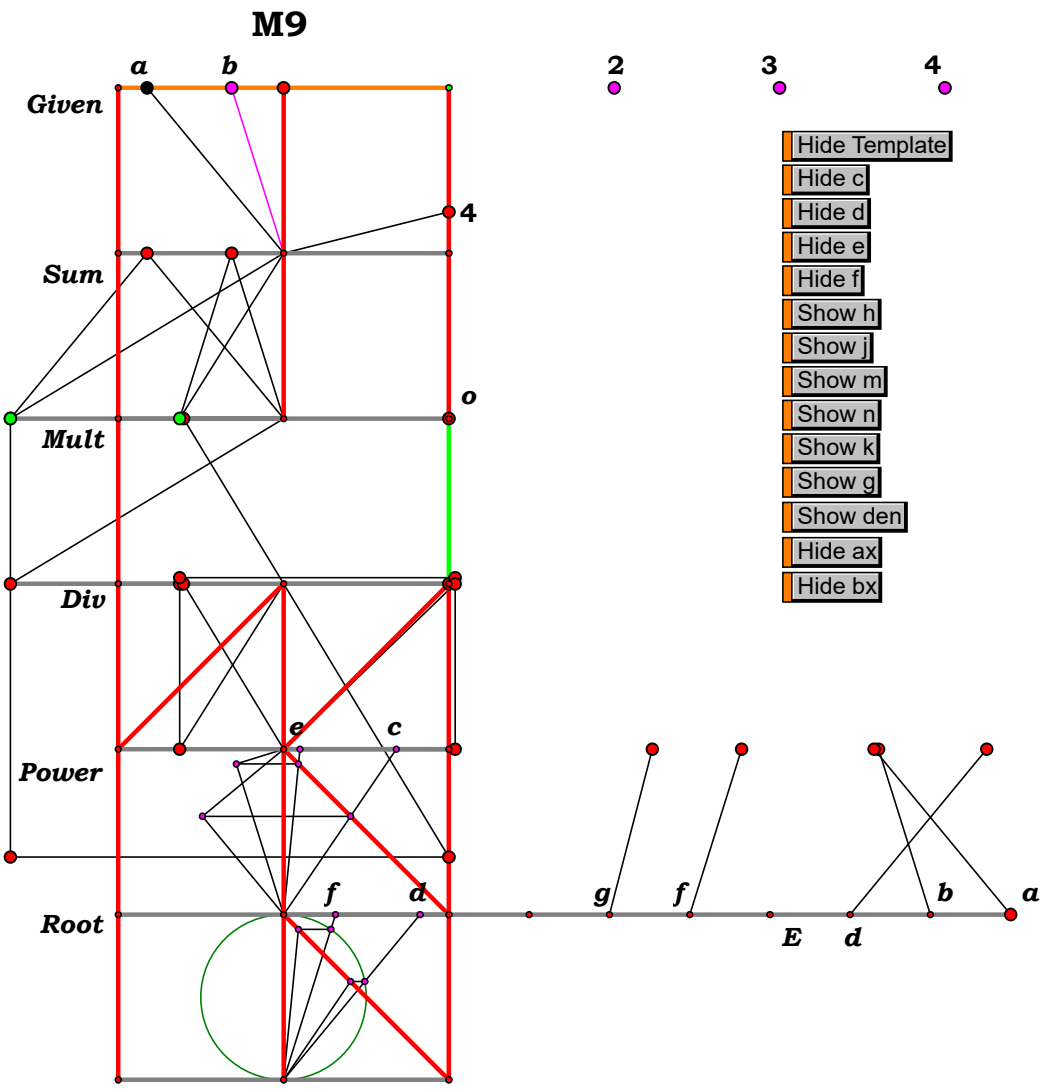
$n = -0.51873$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = 1.00000$

$o - \frac{(a - \sqrt{a^2}) \cdot (b - \sqrt{b^2})}{4 \cdot \sqrt{a^2 \cdot b^2}} = 0.00000$



$\frac{(a - \sqrt{a^2}) \cdot (b - \sqrt{b^2})}{4 \cdot \sqrt{a^2 \cdot b^2}} = 1.00000$

$(a - \sqrt{a^2}) \cdot (b - \sqrt{b^2}) = 1.03746$

$4 \cdot \sqrt{a^2 \cdot b^2} = 1.03746$

$a = -0.36679$

$b = 0.55138$

$c = 0.13454$

$a^2 - c = 0.00000$

$d = 0.36679$

$\frac{a}{d} = -1.00000$

$e = 0.30402$

$b^2 - e = 0.00000$

$f = 0.55138$

$\frac{b}{f} = 1.00000$

$g = 0.20224$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.40448$

$h - 2 \cdot g = 0.00000$

$j = -0.20224$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.40448$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = 0.20224$

$m = 0.20224$

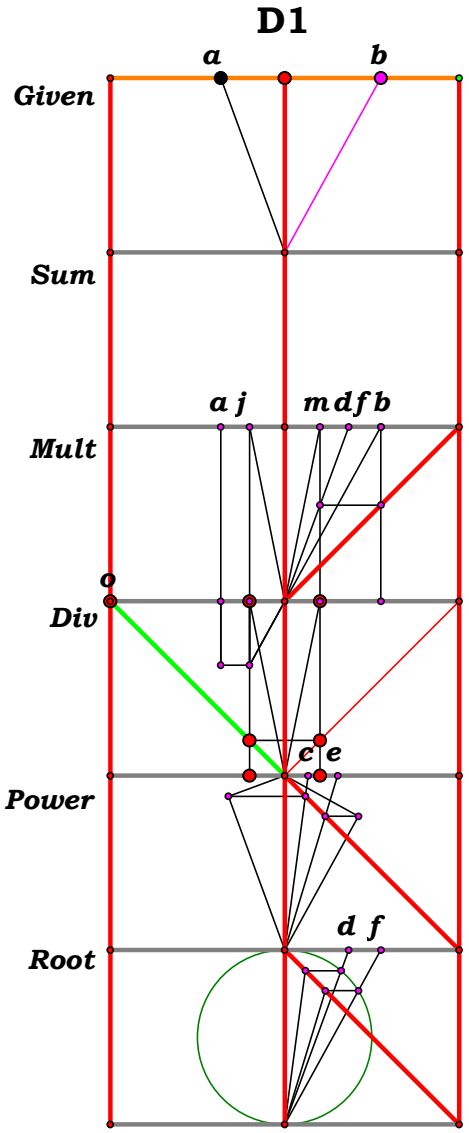
$n = 0.40448$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -1.00000$

$o - \frac{a \cdot \sqrt{b^2}}{b \cdot \sqrt{a^2}} = 0.00000$



$\frac{a \cdot \sqrt{b^2}}{b \cdot \sqrt{a^2}} = -1.00000$

2 3 4

Hide Template
Hide c
Hide d
Hide e
Hide f
Show h
Hide j
Hide m
Show n
Show k
Show g

$a \cdot \sqrt{b^2} = -0.20224$

$b \cdot \sqrt{a^2} = 0.20224$

$a = -0.35537$

$b = 0.37477$

$c = 0.12629$

$a^2 - c = 0.00000$

$d = 0.35537$

$\frac{a}{d} = -1.00000$

$e = 0.14045$

$b^2 - e = 0.00000$

$f = 0.37477$

$\frac{b}{f} = 1.00000$

$g = 0.13318$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.26637$

$h - 2 \cdot g = 0.00000$

$j = -0.13318$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.26637$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = 0.13318$

$m = 0.13318$

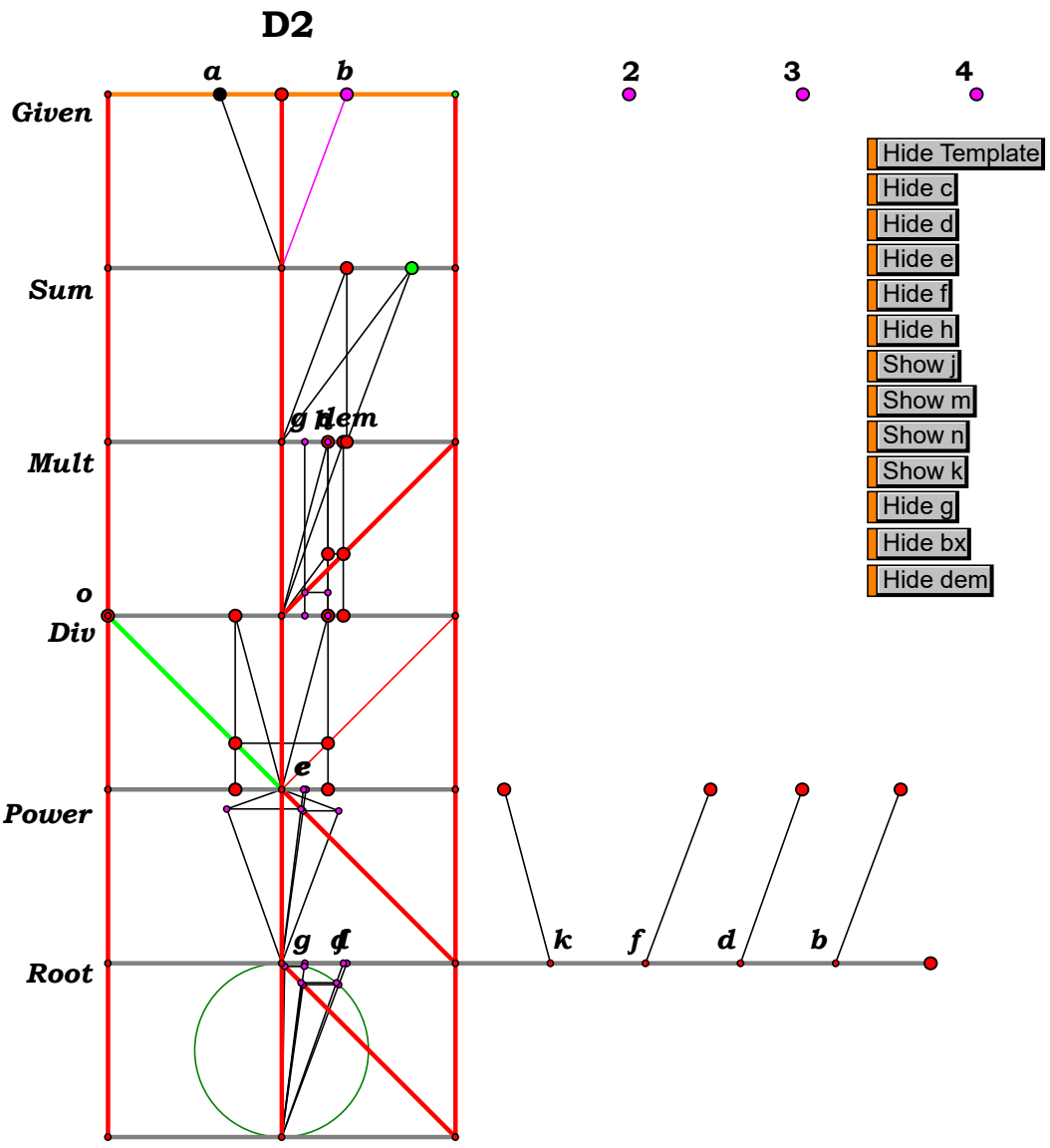
$n = 0.26637$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -1.00000$

$o - \frac{2 \cdot a \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b + \sqrt{b^2})} = 0.00000$



$\frac{2 \cdot a \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b + \sqrt{b^2})} = -1.00000$

$2 \cdot a \cdot \sqrt{b^2} = -0.26637$

$\sqrt{a^2} \cdot (b + \sqrt{b^2}) = 0.26637$

$a = 0.28666$

$b = -0.59658$

$c = 0.08218$

$a^2 - c = 0.00000$

$d = 0.28666$

$\frac{a}{d} = 1.00000$

$e = 0.35591$

$b^2 - e = 0.00000$

$f = 0.59658$

$\frac{b}{f} = -1.00000$

$g = 0.17102$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.34204$

$h - 2 \cdot g = 0.00000$

$j = 0.17102$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = 0.34204$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.17102$

$m = -0.17102$

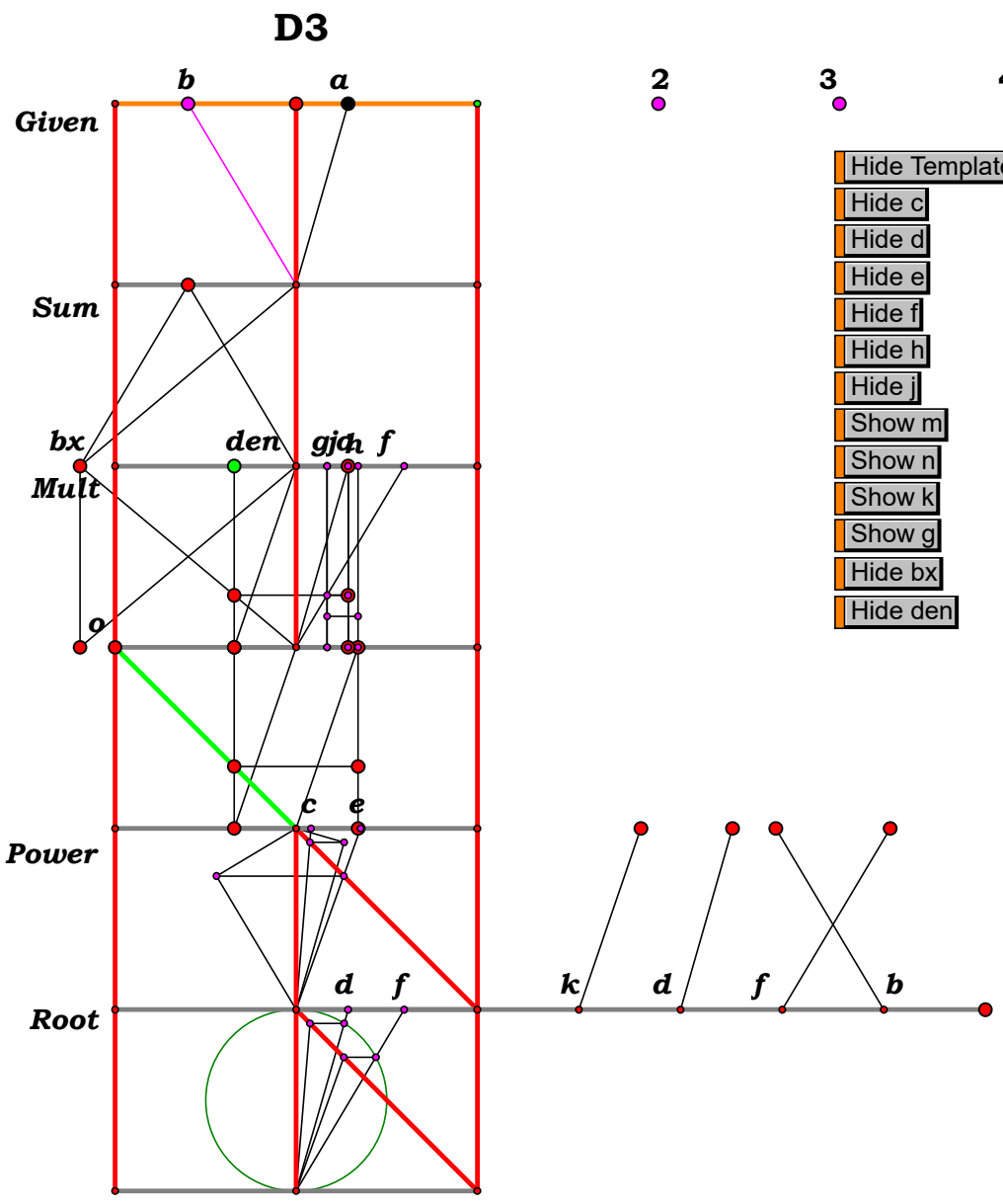
$n = -0.34204$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -1.00000$

$o - \frac{2 \cdot a \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b - \sqrt{b^2})} = 0.00000$



$\frac{2 \cdot a \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b - \sqrt{b^2})} = -1.00000$

$2 \cdot a \cdot \sqrt{b^2} = 0.34204$

$\sqrt{a^2} \cdot (b - \sqrt{b^2}) = -0.34204$

$a = 0.17187$

$b = 0.60436$

$c = 0.02954$

$a^2 - c = 0.00000$

$d = 0.17187$

$\frac{a}{d} = 1.00000$

$e = 0.36525$

$b^2 - e = 0.00000$

$f = 0.60436$

$\frac{b}{f} = 1.00000$

$g = 0.10387$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.20774$

$h - 2 \cdot g = 0.00000$

$j = 0.10387$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = 0.20774$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = 0.10387$

$m = 0.10387$

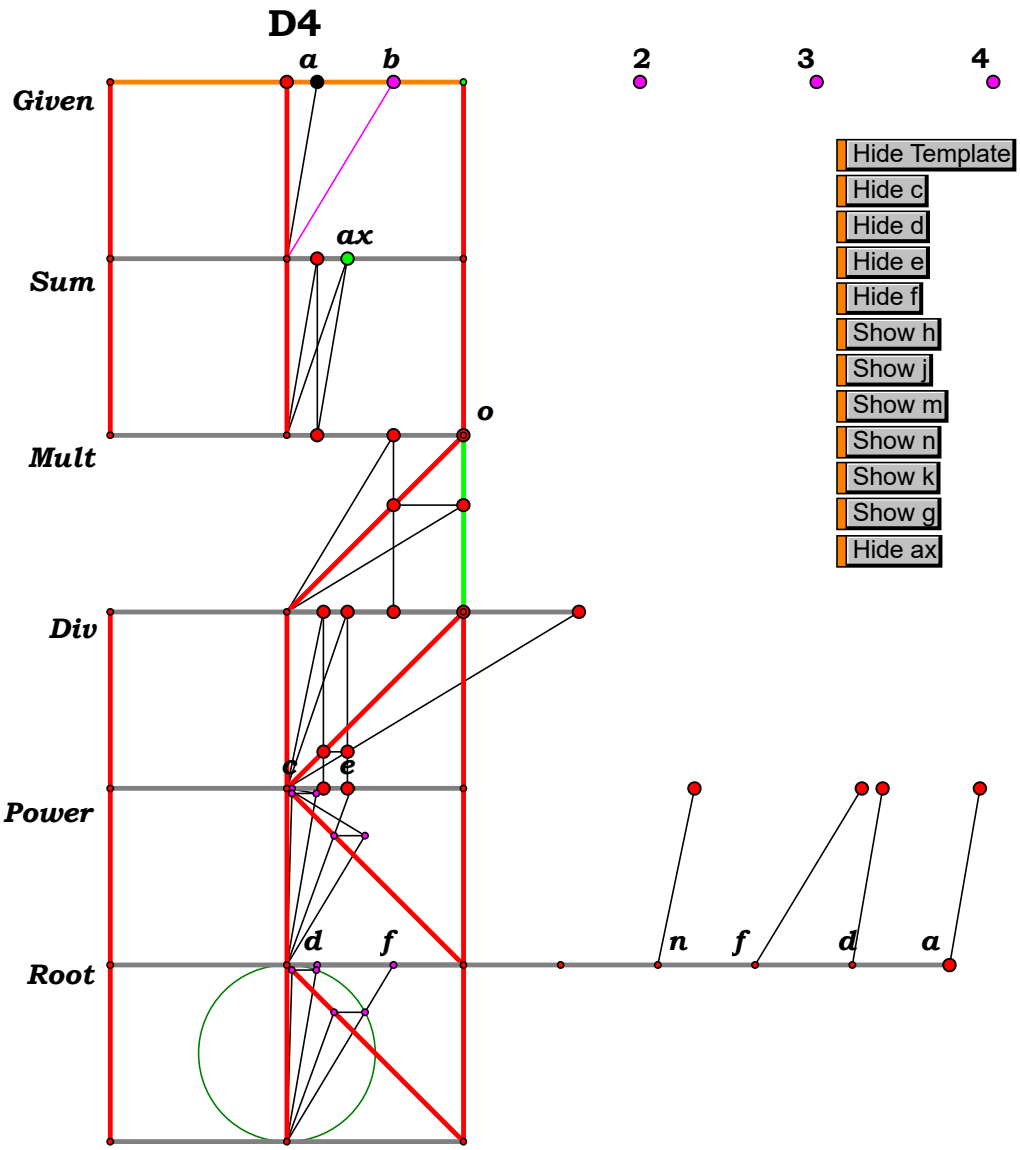
$n = 0.20774$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = 1.00000$

$o - \frac{(a + \sqrt{a^2}) \cdot \sqrt{b^2}}{2 \cdot b \cdot \sqrt{a^2}} = 0.00000$



$\frac{(a + \sqrt{a^2}) \cdot \sqrt{b^2}}{2 \cdot b \cdot \sqrt{a^2}} = 1.00000$

$(a + \sqrt{a^2}) \cdot \sqrt{b^2} = 0.20774$

$2 \cdot b \cdot \sqrt{a^2} = 0.20774$

$a = 0.66358$

$b = 0.51606$

$c = 0.44034$

$a^2 - c = 0.00000$

$d = 0.66358$

$\frac{a}{d} = 1.00000$

$e = 0.26631$

$b^2 - e = 0.00000$

$f = 0.51606$

$\frac{b}{f} = 1.00000$

$g = 0.34244$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.68489$

$h - 2 \cdot g = 0.00000$

$j = 0.34244$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = 0.68489$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = 0.34244$

$m = 0.34244$

$n = 0.68489$

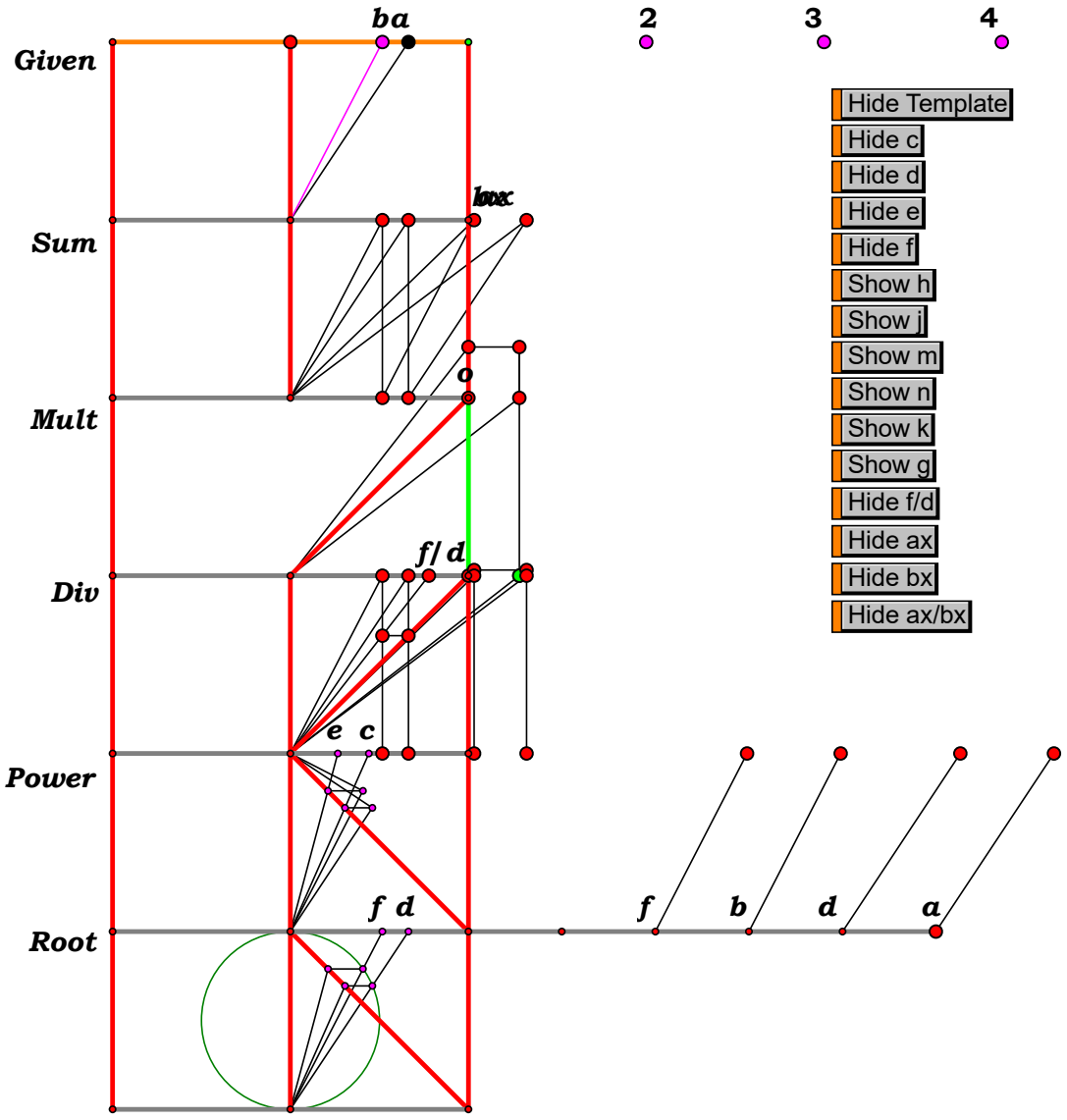
$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = 1.00000$

$o - \frac{(a + \sqrt{a^2}) \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b + \sqrt{b^2})} = 0.00000$

D5



$\frac{(a + \sqrt{a^2}) \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b + \sqrt{b^2})} = 1.00000$

$(a + \sqrt{a^2}) \cdot \sqrt{b^2} = 0.68489$

$\sqrt{a^2} \cdot (b + \sqrt{b^2}) = 0.68489$

$a = 0.32199$

$b = -0.58497$

$c = 0.10367$

$a^2 - c = 0.00000$

$d = 0.32199$

$\frac{a}{d} = 1.00000$

$e = 0.34219$

$b^2 - e = 0.00000$

$f = 0.58497$

$\frac{b}{f} = -1.00000$

$g = 0.18835$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.37670$

$h - 2 \cdot g = 0.00000$

$j = 0.18835$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = 0.37670$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.18835$

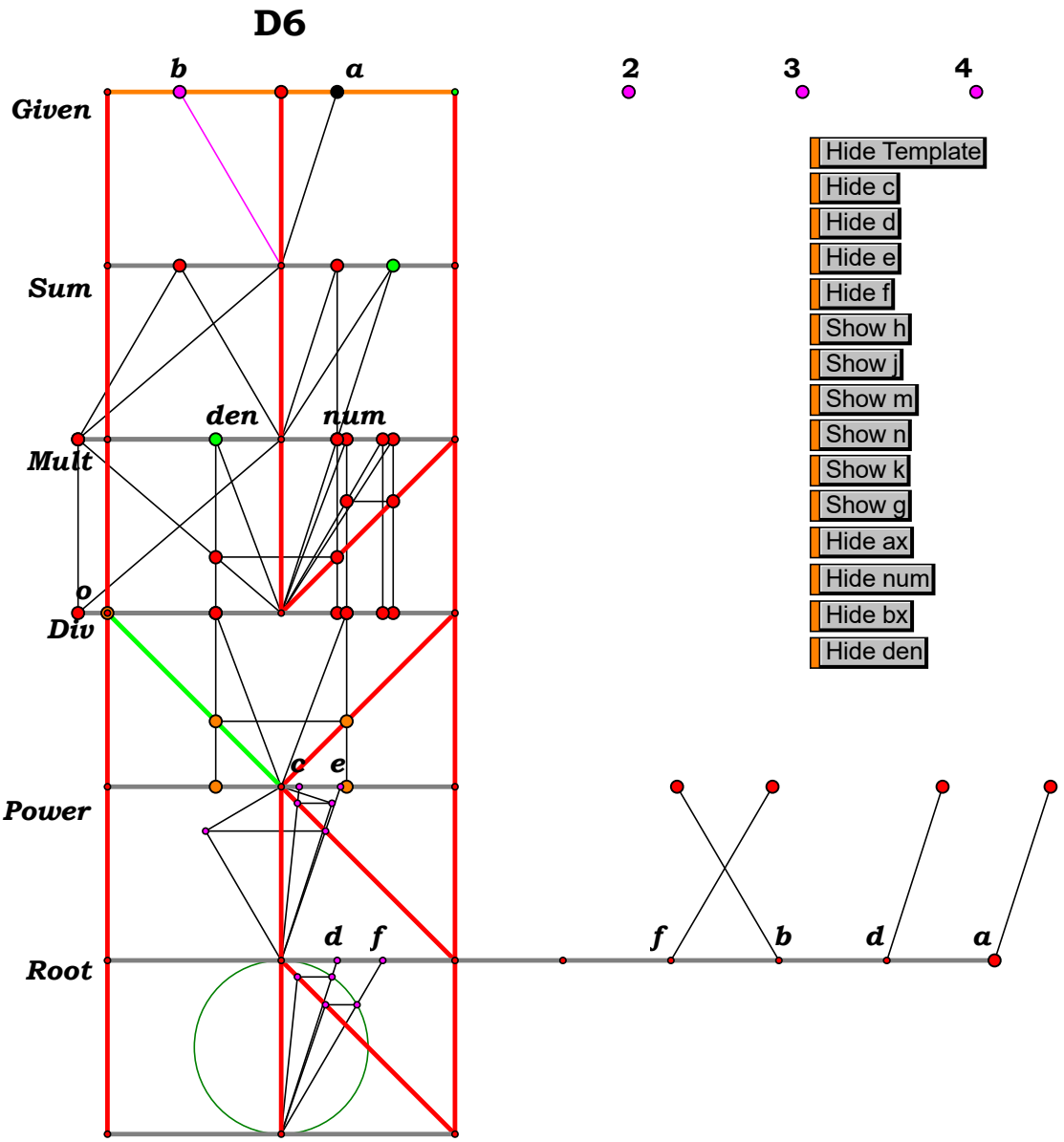
$m = -0.18835$

$n = -0.37670$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -1.00000$



$\frac{(a + \sqrt{a^2}) \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b - \sqrt{b^2})} = -1.00000$

$(a + \sqrt{a^2}) \cdot \sqrt{b^2} = 0.37670$

$\sqrt{a^2} \cdot (b - \sqrt{b^2}) = -0.37670$

$a = -0.37562$

$b = 0.32179$

$c = 0.14109$

$a^2 - c = 0.00000$

$d = 0.37562$

$\frac{a}{d} = -1.00000$

$e = 0.10355$

$b^2 - e = 0.00000$

$f = 0.32179$

$\frac{b}{f} = 1.00000$

$g = 0.12087$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.24174$

$h - 2 \cdot g = 0.00000$

$j = -0.12087$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.24174$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = 0.12087$

$m = 0.12087$

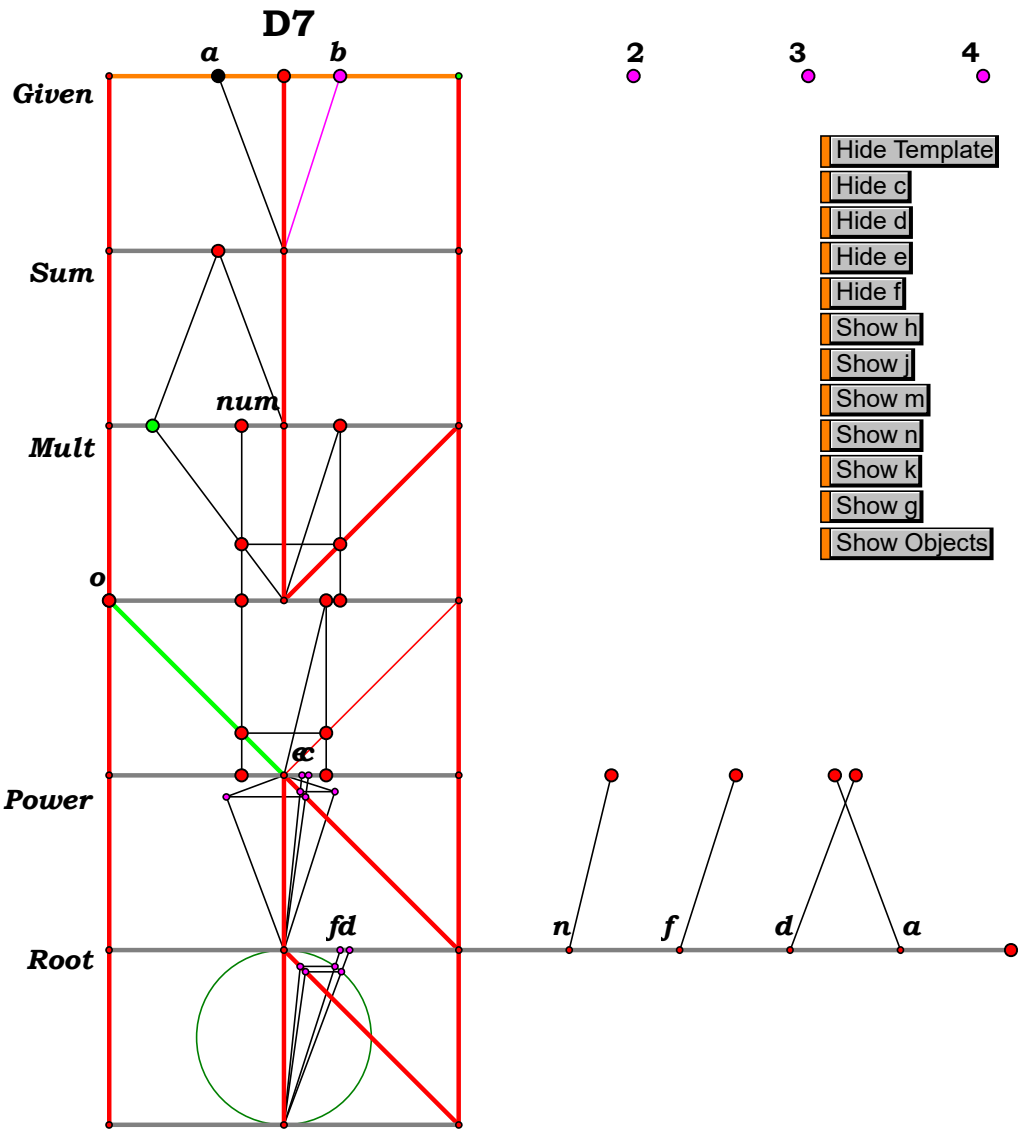
$n = 0.24174$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -1.00000$

$o - \frac{(a - \sqrt{a^2}) \cdot \sqrt{b^2}}{2 \cdot b \cdot \sqrt{a^2}} = 0.00000$



$\frac{(a - \sqrt{a^2}) \cdot \sqrt{b^2}}{2 \cdot b \cdot \sqrt{a^2}} = -1.00000$

$(a - \sqrt{a^2}) \cdot \sqrt{b^2} = -0.24174$

$2 \cdot b \cdot \sqrt{a^2} = 0.24174$

$a = -0.42861$

$b = 0.18050$

$c = 0.18370$

$a^2 - c = 0.00000$

$d = 0.42861$

$\frac{a}{d} = -1.00000$

$e = 0.03258$

$b^2 - e = 0.00000$

$f = 0.18050$

$\frac{b}{f} = 1.00000$

$g = 0.07736$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.15472$

$h - 2 \cdot g = 0.00000$

$j = -0.07736$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.15472$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = 0.07736$

$m = 0.07736$

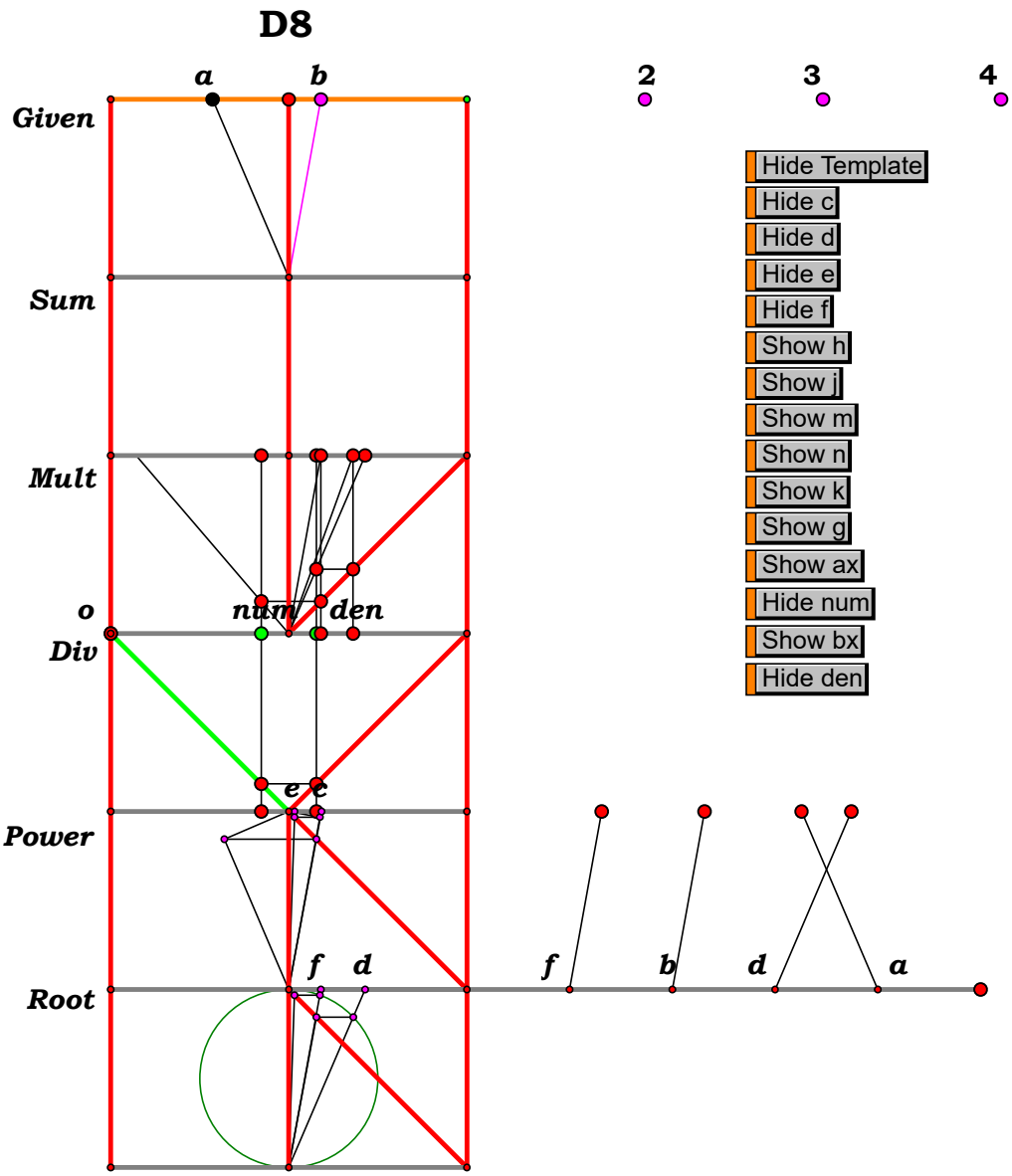
$n = 0.15472$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = -1.00000$

$$o - \frac{(a - \sqrt{a^2}) \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b + \sqrt{b^2})} = 0.00000$$



$$\frac{(a - \sqrt{a^2}) \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b + \sqrt{b^2})} = -1.00000$$

$(a - \sqrt{a^2}) \cdot \sqrt{b^2} = -0.15472$

$\sqrt{a^2} \cdot (b + \sqrt{b^2}) = 0.15472$

$a = -0.27849$

$b = -0.43764$

$c = 0.07756$

$a^2 - c = 0.00000$

$d = 0.27849$

$\frac{a}{d} = -1.00000$

$e = 0.19153$

$b^2 - e = 0.00000$

$f = 0.43764$

$\frac{b}{f} = -1.00000$

$g = 0.12188$

$g - \sqrt{a^2 \cdot b^2} = 0.00000$

$h = 0.24375$

$h - 2 \cdot g = 0.00000$

$j = -0.12188$

$j - a \cdot \sqrt{b^2} = 0.00000$

$k = -0.24375$

$k - 2 \cdot j = 0.00000$

$b \cdot \sqrt{a^2} = -0.12188$

$m = -0.12188$

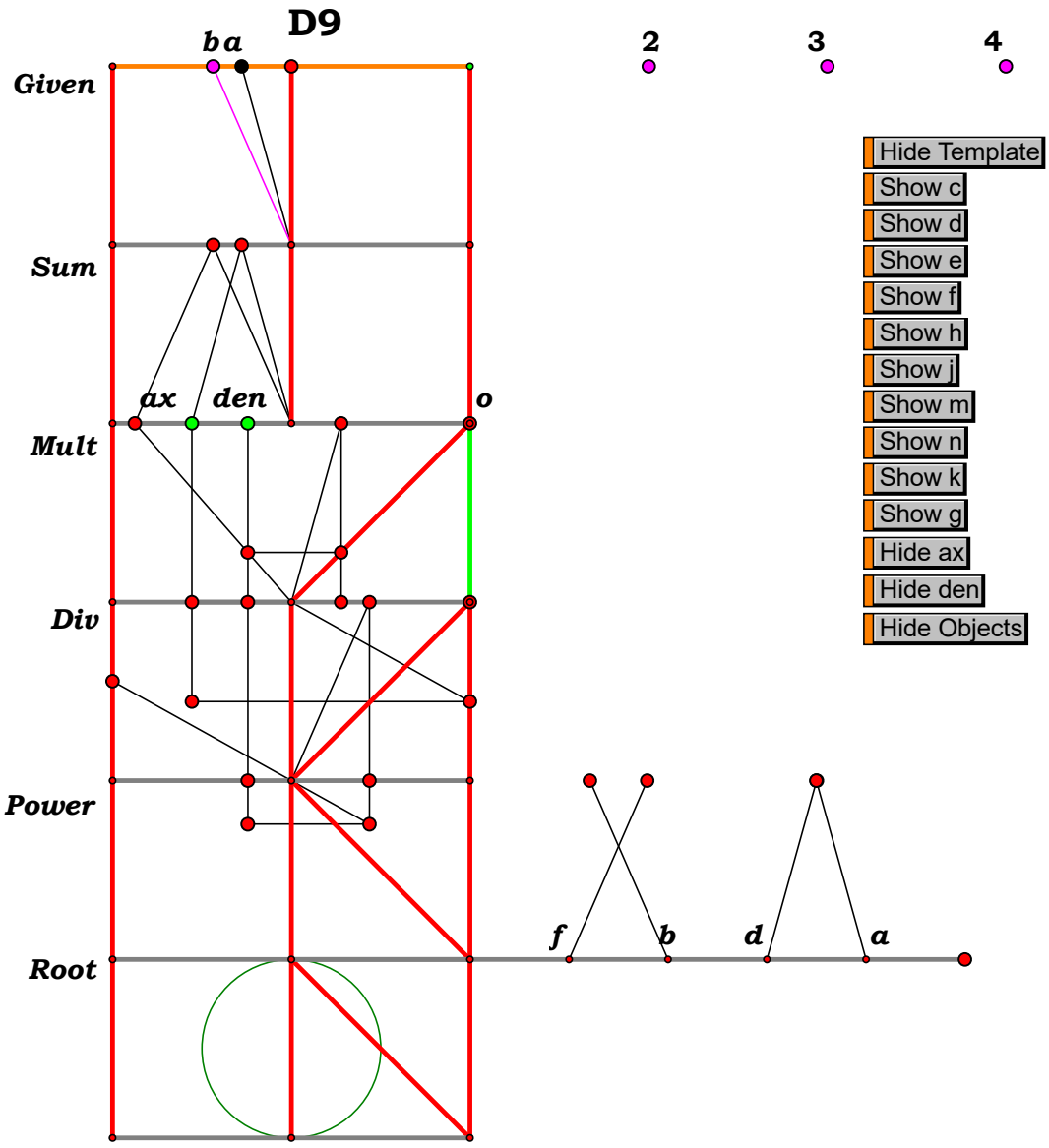
$n = -0.24375$

$m - b \cdot \sqrt{a^2} = 0.00000$

$n - 2 \cdot m = 0.00000$

$o = 1.00000$

$o - \frac{(a - \sqrt{a^2}) \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b - \sqrt{b^2})} = 0.00000$



$\frac{(a - \sqrt{a^2}) \cdot \sqrt{b^2}}{\sqrt{a^2} \cdot (b - \sqrt{b^2})} = 1.00000$

$(a - \sqrt{a^2}) \cdot \sqrt{b^2} = -0.24375$

$\sqrt{a^2} \cdot (b - \sqrt{b^2}) = -0.24375$